

1994

# Women's roles and social change in Sudan

Cecilia A. Adae Darkoh  
*Iowa State University*

Follow this and additional works at: <https://lib.dr.iastate.edu/rtd>



Part of the [Home Economics Commons](#), [Sociology of Culture Commons](#), [Women's History Commons](#), and the [Women's Studies Commons](#)

---

## Recommended Citation

Darkoh, Cecilia A. Adae, "Women's roles and social change in Sudan " (1994). *Retrospective Theses and Dissertations*. 10550.  
<https://lib.dr.iastate.edu/rtd/10550>

This Dissertation is brought to you for free and open access by the Iowa State University Capstones, Theses and Dissertations at Iowa State University Digital Repository. It has been accepted for inclusion in Retrospective Theses and Dissertations by an authorized administrator of Iowa State University Digital Repository. For more information, please contact [digirep@iastate.edu](mailto:digirep@iastate.edu).

## **INFORMATION TO USERS**

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

**The quality of this reproduction is dependent upon the quality of the copy submitted.** Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

# **UMI**

A Bell & Howell Information Company  
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA  
313/761-4700 800/521-0600



**Order Number 9518370**

**Women's roles and social change in Sudan**

**Darkoh, Cecilia A. Adae, Ph.D.**

**Iowa State University, 1994**

**U·M·I**  
300 N. Zeeb Rd.  
Ann Arbor, MI 48106



**Women's roles and social change in Sudan**

**by**

**Cecilia A. Adae Darkoh**

**A Dissertation Submitted to the  
Graduate Faculty in Partial Fulfillment of the  
Requirements for the Degree of  
DOCTOR OF PHILOSOPHY**

**Department: Family and Consumer Sciences Education and Studies  
Major: Family and Consumer Sciences Education**

**Approved:**

Signature was redacted for privacy.

Signature was redacted for privacy.

**In Charge of Major Work**

Signature was redacted for privacy.

**For the Major Department**

Signature was redacted for privacy.

**For the Graduate College**

**Members of the Committee:**

Signature was redacted for privacy.

Signature was redacted for privacy.

Signature was redacted for privacy.

Signature was redacted for privacy.

**Iowa State University  
Ames, Iowa**

**1994**

**DEDICATION**

**In Memory of My Mother**

**Nana Frempomaa I**

## TABLE OF CONTENTS

	Page
<b>CHAPTER I – INTRODUCTION</b>	<b>1</b>
Objectives	6
Definition of Terms	6
<b>CHAPTER II – LITERATURE REVIEW</b>	<b>9</b>
Sudan: The Land, the People and the Culture	9
Gender Division	13
Conditions of women in traditional societies	17
Islam and women's roles	20
Conditions of women in the Sudan	23
Social and cultural change	25
Changing family dynamics and gender roles	29
Changing roles of women	29
Changing roles of Sudanese women	32
Women and Labor Force Participation	34
Women's Economic Roles	37
Women and Economic Development	40
Women and Labor Force Participation in the Sudan	41
Women in Agricultural Production	48
Women in Sudan's Agriculture	48
Sudanese Women's Entrepreneurial Activities	50
Women's health	51
Immunizations and infectious diseases	53
Family planning, maternity care, and child care service	53
Nutrition	56
Access to technology	58
Access to capital resources	63
Family background and traditions	64
Geographic location	67
Education	69



	Page
Summary	70
CHAPTER III - METHODOLOGY	72
Sample Selection	73
Instrument Development	74
Data Collection Procedures	77
Data Analysis	78
Reliability	82
CHAPTER IV - FINDINGS AND DISCUSSION	83
Hypothesis 1	83
Hypothesis 2	87
Hypothesis 3	91
CHAPTER V - SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	98
Summary	98
Sample Selection	98
Instrument Development	99
Data Collection Procedures	99
Data Analysis	100
Findings	100
Conclusions	102
Recommendations for Educational Programs	103
Formal education	104
Nonformal education	105
Recommendations for Future Research	107

	Page
REFERENCES	109
ACKNOWLEDGEMENTS	121
APPENDIX A - HUMAN SUBJECTS APPROVAL FORM	124
APPENDIX B - AREA MAP OF SUDAN AND STUDY AREA	126
APPENDIX C - INSTRUMENT	128

## LIST OF TABLES

	Page
Table 1. Enrollments in school by level, gender and year, Sudan 1956 to 1982/83	14
Table 2. Percentages of males and females enrolled in institutions of higher education in the Sudan 1955/56, 1974/75, 1982/83	15
Table 3. Female tenancies in the Gezira Scheme, 1962-1974	45
Table 4. Varimax rotation showing eigenvalues	79
Table 5. Summary of factor loadings of varimax factors	80
Table 6. Reliability coefficients for factor items	81
Table 7. Percentage of family background by area of residence	84
Table 8. Summary of the one-way analysis of variance for hypothesis 1	85
Table 9. Summary of the one-way analysis of variance for hypothesis 2	88
Table 10. Percentages of educational level according to area of residence	89
Table 11. Attitudes toward traditional gender roles for different levels of mother's education	92
Table 12. One-way analysis procedure for women with and without schooling and number of children	93
Table 13. Percent of women with and without education and number of children	94

**LIST OF FIGURES**

	Page
Figure 1. Percentage of women with and without education and number of children in family	94

**LIST OF MAPS**

	<b>Page</b>
<b>Map 1. Area map of Sudan and study area</b>	<b>127</b>

## CHAPTER I – INTRODUCTION

This study used an existing data set which was collected by researchers and students at the Ahfad University for Women in Omdurman, Sudan, in 1990. The data set was made available to the College of Family and Consumer Sciences at Iowa State University in Ames, through a linkage program between the two universities. The original intent for which the data were collected was to study the determinants of fertility behavior among women in the Khartoum and Omdurman areas in the Sudan. Permission was, however, granted to this researcher by Dr. Amna Badri and Edith Grotberg, the principal researchers from Ahfad University who designed the data collection instrument and directed the data collection efforts, and also by the College of Family and Consumer Sciences at Iowa State University to analyze the data for purposes of this dissertation. Of interest to this researcher were items related to family background, geographic location, and education of the women in the study and the relationship of these variables to attitudes toward traditional gender roles and toward changes that are occurring in traditional gender roles for women in northern Sudan.

The significance of the roles that women play in economic and social development at the local and national levels and women's roles as change agents have gained considerable attention in recent years. This recognition may be a result of the activities related to the launching of the United Nations Decade for Women in Mexico City in 1975, and also due to increased research about women's activities. This has been coupled with

social and development imbalances that call for the need for remedial actions.

In recognition of the multi-faceted activities undertaken by women the world over, and the impact of such activities on development and welfare of nations, a number of policy recommendations and appropriate research priorities and methodologies to bring women into the mainstream of the development process have been instituted and promoted in varying degrees in different countries. However, in spite of the increasing recognition of the important services provided by women, gender division of labor and roles assigned to women in various societies, especially within traditional cultures, continue to devalue and obscure women's contribution in the development process.

The apparent invisibility of women's worth, as well as their work, is widespread and persistent. Women's work, has, on the whole, been severely devalued by a universal ideological framework that regards them as inferior bearers of labour and generally defines their work as the property of men. (Afshar, 1985 p. IX)

Gender division of labor exists in all societies. Men and women are assigned different roles and tend to succumb to and fulfill different social expectations. There are some tasks that are exclusively or predominantly assigned to men and others to women (Mackintosh, 1981). In many instances, women are seen as their husband's helpers (Boserup, 1970).

Women in both developed and developing nations have, for a long time, operated at a disadvantage as a result of the lower status accorded

the types of activities performed by women. Boserup (1970) noted that a major obstacle in studying women's development activities is a lack of documentation. Also, until recently, there has been a lack of appropriate research and research procedures that specifically target women and their activities. Consequently, appropriate data on women and their contributions to economic development in their countries, especially in the developing countries, have not been available to development planners. Women who serve as an important link in the development "chain" have been overlooked in several instances; their welfare has not been adequately addressed. Developing countries particularly have not realized their full development potential because development planners until recent years have overlooked the central role of women as heads of households, unofficial managers of family farms, insurers for family food provision and security, family health providers, child care providers and educators, and national social security custodians.

In all societies, women are valued for their reproductive roles, as providers of human resources, and for their nurturing roles as mothers and overseers of family welfare. In spite of this recognition, women's opportunities to contribute in other ways remain constrained (World Bank, 1990a).

In the developing countries, women are also custodians of their families' food security by virtue of their agricultural, food processing, and storage activities. Women also help sustain household financial security and provide varying educational opportunities for their children through formal and non-formal employment activities and various entrepre-



neurial activities at national and household levels (United States Agency for International Development, 1990).

In several societies in Africa, women have continued to lag behind men because the social roles assigned to them tend to bind them to the household. Household and other familial obligations, lack of education, access to financial and other material resources, lack of appropriate household and farm technology suited to the work and needs of women, lack of adequate health provision, and lack of exposure resulting in curtailed contact with the world outside their immediate environment tend to prevent women, especially those in traditional societies, from taking advantage of development-related opportunities. These opportunities include education or training that will result in self-improvement or family and community improvement. A study by Greene (1985) in Kenya, Sierra Leone and Nigeria noted that one of the obstacles to women's participation in development-oriented training programs was a lack of time due to household obligations.

Women in Africa, though not having benefitted from the full recognition they deserve, have always been the pillar upon which all development endeavors hinge, be it at the local or international levels. These women have always been a part of the work force.

Gender-role differences continue to hamper women's participation in development activities. With reference to the Sudan, Doleib (1987) noted that inequality between the sexes is not a new phenomenon. Sudan, like other Arab and traditional cultures in the developing world, has certain codes of conduct that are considered appropriate differentially for men

and for women. The approved behaviors are reinforced by the religious, cultural, legal, and educational systems; these biases are also manifest in the school curriculum (Doleib, 1987). Nevertheless, the Sudanese society, like societies elsewhere, is undergoing change. The changes occurring have in turn affected traditional gender roles. As stated by Rogers (1969):

Social change is the process by which alteration occurs in the structure and function of a social system . . . . The structure of a social system is provided by the various individual and group statuses of which it is composed. The functioning element within this structure of status is role, or the actual behavior of the individual in a given status (p. 3).

Related to social change, it takes individuals within the social setting who are aware of the positive and/or negative aspects of their traditions, and who are able to question and take necessary steps toward achieving desired conditions (Woo, 1991). These groups of people are change agents whose actions can lead to improvements in their individual conditions or in their social and economic environments.

Traditionally, girls and boys have been valued and treated differently from birth and also given exposure to different life experiences. Several research studies (Woo, 1991; Orubuloye, 1981; UNICEF, 1990; Pellow, 1977) indicate the influence of tradition and the socialization process, education, and mobility (including exposure to new situations and opportunities) on the psychology of women and men, and how these in turn influence their performance and the perceptions they hold about their roles.

The family backgrounds of northern Sudanese women (traditional, transitional, or modern), their geographic location (urban high-income, urban low-income, or rural low-income areas), and their education will be used to determine and discuss attitudes toward traditional roles and the changes occurring in these roles. The purposes of this study were to determine the relationship between Sudanese women's 1) family background, 2) geographic location, and 3) education and their attitudes toward gender roles and the changes occurring in these roles.

### Objectives

Specific objectives related to the purposes of the study were to determine if

1. differences existed in attitudes toward traditional gender roles and changes occurring in these roles among women from traditional, transitional, and modern family backgrounds.
2. women from urban high-income, urban low-income, and rural low-income locations differed in their attitudes toward traditional gender roles and changes occurring in these roles.
3. women with different educational backgrounds differed in their attitudes toward traditional gender roles and changes occurring in these roles.

### Definition of Terms

For purposes of this study the following definitions of terms will be used.

Traditional Family - Family governed by fundamental norms of the society/group, are close-knit, and share decision making with group members.

Transitional Family - Family whose actions and decisions are influenced partially by traditional and modern technological lifestyles.

Modern Family - Family interested in development and wholly imbibes modern approaches to living.

No Education - No formal education, i.e., education not based on a secular school curriculum.

Roles - Multifaceted activities carried out by women, such as child bearing, child care and child rearing, housework, subsistence farming, remunerated employment and health care (Brydon and Chant, 1989 p.1).

Traditional Roles - Ascribed roles from society of origin based on gender.

Status - The value and meaning assigned to women's activities by society, which in turn both reflect and influence the general foundation of gender relations (Brydon and Chant, 1989 p.1).

Gender - Socially constructed phenomenon by which female and male offsprings are socialized into specific roles determined by the values and belief system of their cultural setting (Brydon and Chant, 1989 p.1).

Informal Sector - These activities are unregulated entrepreneurial ventures usually undertaken by individuals. They are primarily conducted in market stalls, open markets, around other business premises or on street pavements. Such activities are usually not subject to government

regulations. The informal sector may also include various home-based and agro-industry projects undertaken by women.

Formal Sector - Activities are usually structured, undertaken on business premises and are subject to government regulations, taxation, and guidelines.

## CHAPTER II - REVIEW OF LITERATURE

In accordance with the purposes of this research which were to determine the relationship between Sudanese women's 1) family background, 2) geographic location, and 3) education and their attitudes toward gender roles and the changes occurring in these roles, a background to the Sudan is presented. Literature is reviewed related to the socio-cultural contexts of gender roles and gender division of labor; differential impacts of traditional socialization experiences in the psychology of men and women; African women, specifically Sudanese women's work and activities; and the social, cultural, political, economic, and institutional constraints that impact their productivity, health and general welfare. Discussion will also focus on some changes taking place in gender relations and gender roles in the Sudan. A review of research related to changes occurring in contemporary African societies, specifically in the Sudanese situation, and women's central role in the change process will also be presented.

### Sudan: The Land, the People and the Culture

Sudan straddles both Arab and African spheres of influence---Muslim cultural dominance to the north and animist and Christian to the south. Historically, these two cultures have harbored marked differences. Sudan, until 1956 had been ruled jointly by Egypt and Britain. After the country's independence, however, political upheaval between the north and south has plunged Sudan into civil war which has contributed to loss of life, and disruptions in the economy and social infrastructure. Dis-

placements of entire populations as a result of the civil war have exacerbated refugee problems in the region, and contributed to mass poverty and starvation (SEPHA, 1991).

As of 1982, Sudan's population was estimated at 20 million. The capital, Khartoum (consisting of greater Khartoum, Omdurman and Khartoum North), had a population of 18,806,000 in 1981. The birth rate stood at 4.8 and population growth rate was estimated at 2.8% per annum. Fifty percent of the population is under 20 years of age with life expectancy at birth estimated at 49 years (Badri, 1983; Nelson, 1983).

Sudan's population is 24% urban, 66% rural and 9.4% nomadic. The the ongoing civil war between the north and south has added a new dimension to Sudan's population strata--the refugee population. SEPHA (1991) estimates indicate that 3.346 million Sudanese are "displaced in many areas of the country, including the capital, Khartoum." More than half of Sudan's population share the Islamic culture; 75% of these live in the north (Nelson, 1983).

Arabic is the primary language spoken by over 50% of the Sudanese population. This category of people consider themselves Arabs; they belong to various Muslim groups and share the culture of other Muslims in the Arab world. The rest of the population speak Arabic as a second language. English is accepted as the official language in the south (Nelson, 1983). Major religions in the Sudan are Sunni Muslim, indigenous local religion, and Christian.

Sudan has a 20% literacy rate. The illiteracy rate for women is 90% while that for men is 55%. This difference may be explained by Sudan's

traditional culture which stressed education for boys, and traditional roles for girls. Colonial administration practices purposely or inadvertently helped lend support to such practices. At the time of Sudan's independence in 1956, all available schools and training institutions were located in towns and cities (Kashif, 1984 cited in Hevi-Yiboe, 1987). Females in the rural settings (the bulk of the Sudanese population) had limited access to these schools and institutions because of cultural restrictions placed on their movements. At the same time, Khalwa, the traditional religious education for boys, but barred to girls, was available country wide to accommodate the educational needs of boys within the traditional and religious context. Again, subject matter content in the formal school system and the skills stressed were seen as incompatible with traditional roles of girls, so parents did not see the need to educate their daughters (Nelson, 1983).

In spite of differences that exist in cultural and religious ideologies of the people of the Sudan, some basic traditional norms are shared and enforced by the various cultures. Sudan, like most Muslim cultures, enforces strict gender roles. Men's roles revolve around the public sphere while women's center around domestic, private, and personal aspects of family maintenance.

Women in the Sudan, particularly rural women, have generally been assigned by nature, culture, and tradition to be bearers of children as well as the providers of food and other essentials for their families. The result is that their life in rural areas is characterized by drudgery and heavy work-loads, particularly when they are left to act as surrogate



household heads by their seasonally-migrating husbands for up to one year or more.

Marriage in the Sudan is almost universal. In the north, the Islamic "Sharia" marriage is legalized by a marriage contract, the "Quaseima." Polygamy is permitted, and divorce is fairly easy to obtain (Republic of Sudan, 1979).

Early and universal marriage has traditionally been encouraged to further the fulfillment of woman's primary role, that of reproduction. As is the situation in most traditional cultures, a newly married couple in the Sudan is usually under pressure from other family members to produce an offspring. Childlessness can usually be a legitimate excuse for divorce (Department of Statistics, 1982).

Child care and educating and preparing children for social responsibility is the mother's duty. Sudanese women are culturally expected to be brought up to be skilled in housekeeping. Cooking is one area where they are expected to demonstrate expertise. There is an African proverb which literally translates to mean that a "woman's access to her man's heart is through the stomach". Most women in traditional societies adhere faithfully to the requirements of this proverb. Cooking skills are considered an important attribute of every African woman.

Despite tradition and the demands it places on women, the situation of women in the Sudan is changing. More women are able to receive an education that gives them access to non-traditional professional positions, positions formerly reserved for males only (Bassioumi, 1984 cited in Hevi-Yiboe, 1987). Women's advocacy groups, comprised mainly of

women, are involved in activities and programs that will lead to women's emancipation (Hevi-Yiboe, 1987). The Ahfad University for Women in the Sudan is one example of an institution that provides higher education and, therefore, better employment opportunities for young women.

Educational involvement for girls in almost all categories of institutions are consistently on the rise (Tables 1 and 2). More women, as a result of other socio-economic pressures, now participate in the formal labor market or in other small-scale entrepreneurial activities. Women's participation rates in the formal employment sector are greater in the urban centers where the greatest educational opportunities and employment opportunities exist. Great disparities still exist in waged employment opportunities for women in the rural areas and also for refugee women who either reside in the capital or live in refugee camps.

### Gender Division

Gender division has its origins in culture, socialization, (Holter, 1971; Mernissi, 1985) and sometimes colonization (Boserup, 1970; Charlton et al., 1989). Evidence from a wide range of societies suggests that gender divisions take on different forms, many of which contradict the stereotypical definitions of masculinity and femininity. Gender is a socially-constructed phenomena--male and female offsprings are socialized into specific roles as determined by the values and belief systems of their cultural settings. Culture tends to define expectations and responsibilities of individuals within a group. History tends to support and validate expected roles. Socialization processes tend to provide guidance and reinforce expectations. Within the African context,

Table 1. Enrollments in school by level, gender and year, Sudan 1956 to 1982/83

Year	Elementary			Intermediate			Secondary		
	Females %	Males %	F/M <sup>a</sup>	Females %	Males %	F/M <sup>a</sup>	Females %	Males %	F/M <sup>a</sup>
1956	33.0	146.0	0.19	7.05	39.0	0.18	4.0 <sup>b</sup>	22.0 <sup>b</sup>	0.18 <sup>b</sup>
1967	156.2	315.0	0.49	22.0	67.4	0.33	5.4	23.7	0.23
1977	491.7	815.3	0.60	74.2	144.4	0.47	22.2	47.3	0.47
1982/83	643.4	935.8	0.69	137.75	193.3	0.71	60.5	99.2	0.61
Percent Change 1977-1982/83	30.8	14.8	2.1	85.6	33.9	2.5	168.9	109.7	1.5

<sup>a</sup>F/M refers to female-to-male ratio, where male = 1.00.

<sup>b</sup>In 1956 uses a combined data for secondary and post-secondary numbers.

Source: Cited in Mohammed and Alla (1985) p. 5.

Table 2. Percentages of males and females enrolled in institutions of higher education

	1955/56		1974/75		1982/83	
	Male %	Female %	Male %	Female %	Male %	Female %
University of Khartoum	97.0	3.0	89.7	10.3	73.4	26.6
Omdurman Islamic University	100.0	0.0	80.5	19.5	70.6	29.4
University of Cairo, Kh.	89.9	10.1	80.2	19.8	60.0	39.4
Institute of Technology College	-	-	87.9	12.1	86.9	13.1
Other institutions	89.0	11.0	47.2	53.8	55.1	44.9

Source: Cited in Mohammed and Alla (1985) p. 3.

colonization in some cases has overridden cultural norms to assign new roles to members of a social group (Charlton et al., 1989).

Men and women in almost all societies are traditionally assigned tasks based on their gender. The interpretation of tasks, their nature, and how they are assigned may vary from one culture to another, except, of course, tasks related to procreation. In traditional African societies and elsewhere, women are assigned domestic roles. These include provision of food and other services needed for the health and comfort of the household. In farm families, women are expected to work on the farm

as well. Women are naturally expected to play the role of a wife providing comfort and support to the husband; be a mother, counselor, educator and companion to her children; and in traditional societies, oversee the welfare of other extended family members, especially the elderly.

Women the world over have historically been known to provide support for their men in times of war. They assume responsibility for supply of food and other health needs, as well as provide moral support and comfort to their men. Native American Indian women, for example, assume other support roles. The Winnebago women, according to Radin (1920) in times of war provided leggings and built trenches, as well as provided medicinal aid and comfort for the wounded. The women sometimes acted as sentinels (because they would least be suspected by the enemy) to look out for enemy intrusion. The women were also looked up to for advice and strategy. This is because they were believed to possess sex-specific supernatural powers that could influence the course of events. They were looked up to for spiritual support; they were used as negotiators, messengers, and translators (because they were less threatening to the enemy); warrior women went to war and sought revenge in emergency situations. Women were in charge of post-battle celebrations, and it was the women who determined the fate of the war captives.

In some traditional societies, women are socialized and molded to allow themselves to be guided by their men (Mernissi, 1985). They are expected to take instructions from their menfolks and pander to their whims. Women who try to be assertive or deviate from the norm are

frowned upon by society. Within this context, a woman's primary role is to produce children; provide maternal care, food and comfort; and also assist the man in his work. As noted by Nichols and Engberg (1986), "In many African countries, women are exclusively responsible for meeting household needs; and in other countries they have specific obligations that are complementary to obligations of their husbands" (p. 106). In traditional societies, girls are prepared and socialized into these roles.

#### Conditions of women in traditional societies

In most traditional societies in Africa and in other parts of the developing world, a woman's role is determined by her biological make-up and enforced through tradition, religion and various socialization practices. A girl, early on in the socialization process, is sensitized and sometimes conditioned to accept the virtues of meekness, submissiveness, femininity, and to value her "greatest asset" as a homemaker. Girls in most traditional cultures go through special initiation at the onset of puberty during which they are made to think and believe that their most important role is childbearing. During the puberty celebration, girls are taught that their primary role is to produce children and look after their husbands to the exclusion of all other tasks. Badri (1990) writes that Sudanese women are supposed to act shy, show submissiveness and express the need for a man's attention and protection. Female children in many traditional African societies are regarded as

possessions to be guarded while male children are considered as heirs destined to inherit and carry on the family name.

Women in both rural and urban settings in the developing countries, especially in Africa, face demands in excess of their time and resources (UNICEF, 1989). It is estimated that less than 50% of the people in rural areas have access to safe water points. Ferguson (1986) noted that during the dry seasons when seasonal water sources dry up, women in Kibwezi, Kenya, may trek over 5 kilometers in search of water. White et al. (1972) stated that in some rural and urban areas of Kenya, women expend up to 30 percent of their daily caloric intake collecting water, and 3 hours per capita day carrying water. In several traditional rural societies, in Africa and elsewhere, women have been condemned to a life of servitude. Writing of women in Sikandernagar village in the Andhra Pradesh state of India, Jacobson (1993) notes:

... waking at 4:00 a.m., they light fires, milk buffaloes, sweep floors, fetch water, feed their families. From 8:00 a.m. until 5:00 p.m., they weed crops for a meager wage. In the early evening they forage for branches, twigs, and leaves to fuel their cooking fires, for mild vegetables to nourish their children, and for grass to feed the buffaloes. Finally, they return home to cook dinner and do evening chores. These women spend twice as many hours per week working to support their families as do the men in their village. But they do not own the land on which they labor, and every year, for all their effort, they find themselves poorer and less able to provide what their families need to survive (p. 61).

An Ethiopian rural woman, according to Pankhurst (1992), once described a woman's life as "yedoro muro", "a chicken's life". This analogy sums up the woman's situation at different operational levels. As opposed to the

men whose hard access to greater involvement with the wider world, the life of a woman unfolds within the confines of the homestead. The basis of the "chicken's life" analogy is that:

... unlike all other forms of livestock taken to pasture lands and given fodder, chickens have to scrounge around for food and look after themselves. Similarly, women fetch their own water, and make their own meals, whilst the men are fed and given drink. At the symbolic level, chickens are ritually slaughtered to celebrate childbirth; women's blood discharged during delivery and the chicken's blood jointly result in the taboo against most people entering the hut for the first three days after delivery. Chickens, like women, are considered as smaller and of lower value, once again unlike the larger forms of livestock... (Pankhurst, 1992, p. 100).

Women who operate in Muslim societies face special constraints. In many Muslim societies, women's roles are confined to the household, while men's activities extend to all other spheres. Women are meant to be wives and mothers, while marriage and childbearing are considered religious obligations for the woman. And, according to the Holy Quran, while men and women are equal before God, men stand a step above women in society (Callaway and Creevey, 1994). As a result of the socialization processes that women undergo, they sometimes act to fit certain stereotypes and believe that engaging in stereotypical behavior is the only way of proving their worth. Northern Sudanese women, like women in other Islamic societies, subscribe to culturally-assigned roles labelled as appropriate for women. According to Badri (1990), women are basically relegated to household activities. These activities tend to be less



valued in comparison to activities undertaken by men in their roles of family support. Badri also states that

The whole system of exchange and stratification of the family institution is embedded within a value system that gratifies male activities . . . . Males are expected to be brave and show abilities of independent decision making and protection for others as part of masculinity, while women are supposed to play domestic roles mainly, to show signs of shyness, the need for protection, expect to be supported and accept decisions of other males (Badri, 1990, p. 3).

Badri further states that division of labor, stratification (hierarchies) and value systems help to define the roles of women and men in the Sudanese society and also determine the extent of their participation in development activities (Badri, 1990).

Badri (1990) stated that restrictions imposed on women in the Sudan are necessitated by value systems that are aimed at protecting them from socially unacceptable interactions that might jeopardize the good reputation of families. She sees this as a limiting factor to the chances of female education, participation in public affairs and major decision-making processes. She also noted that such restrictions on women tend to lock women into traditional systems that dichotomize gender roles into feminine and masculine domains. Behaviors appropriate to each were closely monitored, especially those to do with female moral conduct, and rewarded or punished differently. Social stratification in northern Sudan, according to Badri (1990) provided more exposure and opportunities for men while confining and foreclosing doors to opportunities to women in the same social setting.

### Islam and women's roles

Documentation from pre-Islamic society cites the various important and diverse roles, and also the importance of women and the recognition they enjoyed in society. "Women in the desert areas and oases enjoyed a greater degree of liberty and independence than women in towns because they were involved in obtaining the means of livelihood. These desert women mixed freely with men and did not wear the veil" (Saadawi, 1980, p. 194).

In pre-Islamic times, both female and male goddesses were acknowledged. "The important position occupied by some goddesses was symbolic of the relatively higher prestige enjoyed by women in Arab tribal society, and a reflection of the vestiges of matriarchal society that still lived on in some of the tribes (Saadawi, 1980, p. 194). Saadawi indicates that women's participation in economic activity in the pre-Islamic era, side by side with men, enabled them to be independent both inside and outside the home; women at that time were often free to choose their own husbands. Women in some of the tribes practiced polyandry and could marry more than one man. Women were also free to divorce as they wished and men obeyed their wishes.

At the advent of Islam women lost some of their privileges. Women, in early Islam, protested against tendencies of male authority. Early Muslim women, according to Saadawi, were ahead of women in the rest of the world in resisting "a religious system based on male domination" (Saadawi, 1980, p. 195).

Saadawi's account indicates that the pre-Islamic era witnessed women personalities that wielded power and played important roles in the tribal society. Women had the freedom of expression and enjoyed equal rights, if not more rights, and freedom, than men. The wives of the prophet Muhammad exhibited a great deal of authority and influence, even over the Prophet Muhammad himself.

According to this documentation, it appears that the processes leading to women's subordination within the Muslim culture started with the advent of Islam. Saadawi (1980) asserts that

. . . those who came after Muhammad did not follow in his steps where attitudes to women and their problems were concerned. Instead of their previous freedom in marriage and divorce women were subjected to new laws imposing upon them marriage against their will, if necessary by brute force, and depriving them of their right to divorce (p. 195).

The foregoing account clearly shows that the status women enjoyed, their sharing of social authority, and the recognition accorded them by Prophet Muhammad in the pre-Islamic era were results of women's active participation in various aspects of life both within the "domestic" and "public" spheres; and also due to the outstanding roles played by influential Arab women.

Women in northern Sudan share a similar history with women in the rest of the Arab world. Kheir (1987) notes that Sudanese history has records of matrilineal system of succession; and that the role and status of certain royal women enabled them to share equal social power and enjoy great authority.

Kheir states that the expansion of Islam gradually replaced traditional and local cultures. Islam not only gradually replaced local cultures, but also gradually eroded the status, authority, and freedom enjoyed by women.

#### Conditions of women in the Sudan

Sudanese women, like the women in traditional settings, live and work in a basically circumscribed cultural environment. The division of labor, social stratification, and value systems help define roles played by males and females in the Sudan; and also stipulate the extent of female participation in cultural, political, and development activities. According to Badri (1990), the value system further restricts women's movement and interactions for fear of possible misbehavior that may endanger the family honor. These forms of restrictions place limitations on women's access to education, participation in social development activities, and even access to vocational and extension education, including extension services. In a traditional society like the Sudan, it is the inherent social hierarchies and ideologies of male supremacy rather than any specific religion which affects women's lives (Afshar, 1985).

The Sudanese woman, like most Arab women, is delegated to duties of work inside the house and outside it. The first is her obligation toward the family; the second, her new one toward society (Saadawi, 1988). However, the role of the wife is summarized in the Qur'anic statement that women have rights even as they have duties, according to what is

equitable; but "men have a degree above them" (Hammindal Abd al Ati, 1977). This degree is usually interpreted by Muslims in conjunction with another passage which states, among other things, that men are protectors of women and managers of their affairs. This degree parallels what is referred to in sociological terms as "instrumental leadership" or authority in the household due to role differentiation on the basis of sex. Men's superior position in the household enables them to dominate women's lives. In most cases, men reject women's participation in public, political or cultural activities (Saadawi, 1988). In some Arab countries, the law stipulates that a man has the right to prevent a woman from going outside the home without his permission. According to Saadawi (1988), this is in contradiction to the constitutions of most Arab countries which state that citizens are equal before the law. A constitution stipulates the rights and obligations, including protection of individuals within the social setting. On this basis one would assume that the constitutions guarantee equality between men and women. But a careful examination reveals a dichotomy between the public and private from which oppression and exploitation of women are derived and maintained. The (Islamic) constitution makes a distinction between a person's public political rights and duties and her/his private rights and duties. The constitution which guarantees the separation between the "public" and "private," according to Saadawi, was established solely to subjugate women to men's control. Saadawi (1988) points out contradictions that exist in labor laws, for example, that discriminates against women. According to this law, women have the same rights as men to work,

but then it is the husband who has the final say as to whether the woman can take up employment or not.

In spite of cultural restrictions that threaten the freedom and productivity of women who operate in traditional, especially Muslim cultures, dramatic social changes are occurring in their work and family roles.

### Social and cultural change

Conditions that contribute to social change are many. A series of variations or alteration in traditional ways of life, individual roles, relationships, perceptions, values, and attitudes may contribute to changes within a social system. Ogburn et al. (1957) explains that several derived causes or a combination of events may function together to produce an effect. Changes that occur in a social setting can be attributed to effects that have led to variations in the traditional mode of life, and the subsequent influence on human behavior. An effect, according to Ogburn, is not the result of one cause alone, but of several converging causes.

Over the years several theories suggesting causes of social and cultural change have been proposed. Theories range from the interaction between human beings and their natural environment to the geographic environment as a determinant force of change, as well as the biological nature of man as a force for change (Ryan, 1969).

Modern social science has sought to explain social change within the framework of socio-cultural facts. Ryan (1969) states that:

Cultural determinism in change has arisen in two main streams. On one hand are scholars who find dynamic forces in man's "material culture" and on the other are those who see the ideologies as the driving forces for change (Ryan, 1969, p. 27).

Marx is among social scientists who subscribe to material culture as the force for change, but placed greater importance on technical achievement and material welfare of society. Marx (1968) suggested that the organization of society must be based on its corresponding "modes of production." He indicates a need for integrating the institutional "superstructure" with its economic base, that is, the modes of production. As noted by Ryan (1969), the changing nature of that material base is the force that determines change. This implies therefore that the potential for change and its manifestation is dependent upon the extent to which the forces of production and the individuals involved with them are integrated with the institutional superstructure. The modes of production here refer to society's organizational support in the relationships that exist among labor, existing technologies, and related human and material resources; as well as the system of economic exchange. Marx (1968), Ryan (1969), and Engels (1972) all noted that it is the family system in primitive societies more than the modes of production that provide the support for social and economic change. It is crucial therefore that the support base for families and especially women be strengthened to affect changes in their environments.

Referring to material culture, Ogburn (1922) stated that material culture and related structures "change by a process which is fundamental-

ly different from changes in norms and social organization." While material culture may tend to experience increasing rates of change, non-material culture does not; but rather becomes adaptive to the material culture. As an example, Ogburn recommends that mechanisms for controlling the use of new technology be developed only after the technology has gained the acceptance of the target population. He states that cultural lags may result if this fact is overlooked. Social relationships, he indicates, cannot keep pace with the new conditions created by new material instruments. This, perhaps, offers a partial explanation as to why women in several societies, especially in the developing countries, have not benefited substantially from technological developments - thereby creating the phenomenon of a gender gap.

Other theories contrasting the concepts of material culture as a dynamic force for social change revolve around ideas and beliefs of men as forces for change. Orubuloye (1981), for example, notes that western education in Nigeria helped shape ideas and behavior of university students and other elites. Some social changes leading to modernization may improve the conditions and well-being of individuals, both women and men. It may be argued, for example, that women who live in modernized environments tend to experience improvements in their social status as well as in their living conditions, as opposed to women in non-modern or traditional societies (Lewis, 1969; Moore, 1965; Smelser, 1970). Life for women in traditional societies may be seen as a constraining factor to their autonomy and options toward development.



Some social changes may also lead to disruptions in existing social structure and organization and a deterioration of the lives of certain members of the group. Numerous examples abound in Africa and other developing countries where social changes (the nature and forms they take) have placed some groups at a disadvantage.

In Latin America, Africa, and Asia, modernization has been linked to the changes that have undermined women's productive roles and threatened their physical and material well-being (Boserup, 1970). Increases that have been noted in female-headed households in developing countries have been linked to male rural-to-urban migration and agricultural mechanization with its associated technologies. Also, colonial education systems and practices tended to work to the advantage of some sectors of the population, men, and not women. Men benefited more than women (UNICEF, 1991). In the area of agricultural extension education, for example, men for the most part received training and worked with predominantly male largeholding farmers.

Writing of the Sudan's Gezira Scheme, for example, Pollard (1986) notes that the technological and administrative system imposed on the tenants radically increased the incidence of waterborne diseases, in the case of schistosomiasis, to an unbearable level. The scheme also led to disruptions in the social work organization within the family. Pollard observes further that as a result of the activities associated with the scheme, women's lives became more confined to the settlements. Women could no longer indulge in their former occupations of spinning and weaving. Women whose children had migrated to the cities in search of

work found it difficult to compete in the fields with the men. The scheme in this case basically led to a breakdown in the traditional, cultural and social structure of Sudanese rural communities.

#### Changing family dynamics and gender roles

The varying social, economic, and political circumstances in which families (men and women) operate will determine what can be perceived as "appropriate" in terms of changes in gender roles. What constitutes appropriate role change in one region may not be acceptable in another. Value systems that operate in different settings may also dictate role change that may be called into operation. Women's perceptions of their roles may also differ from one country to another--a role considered condescending in one culture may be considered prestigious in another.

However, globally, changes in the economy of the family, national economies, and also "the growing awareness of the importance of full and effective participation by women in all aspects of the development process" (Johnstone, 1975, p. 19) as well as dramatic increases in the number of women gaining access to education have led to changes in gender relations both at the micro and macro levels.

#### Changing roles of women

Social changes occurring at accelerated rates in societies around the world have necessitated changes and/or modifications in women's traditional roles. Women out of necessity or by choice are engaging in other forms of work - both in the formal and non-formal employment sectors.

According to International Labour Organization (ILO, 1982) statistics, women comprise one-half of the population; represent one-third of the total labor force; contribute two-thirds of all working hours; receive one-tenth of the gross income; and own one percent of the world's privately-held property. Women comprise an estimated 32 percent of the measured labor force in developing countries, the majority in small privately-owned businesses and more than 40 percent of the world's agricultural workers (United States Agency for International Development (USAID, 1990). Despite women's contribution to securing the household food supply and to the family's economic viability, patriarchal family and social structures deny real property rights to land to women, limit their access to and control over the proceeds of their own labor, and constrain their decision-making roles (Jiggins, 1989).

The number of women engaged in agriculture continues to grow as more men in developing countries migrate to cities and towns to seek employment, leaving women behind to work the land. According to a 1990 USAID study, roughly one-third of all households in the developing regions of the world are headed by women.

It is well documented that women around the world perform the lowest-paid activities and are concentrated in low-end jobs and occupations (Rodgers, 1986). Differentiation by sex in access to education, formal employment, and resources lock many households into poverty.

The permissible range of economic activities for women remains sharply circumscribed, with few options for employment in the formal sector, frequent government harassment and relatively low economic

returns (UNICEF, 1991). Close to one billion people in the developing world currently live in conditions of absolute poverty -- that is, in situations where their incomes are so low that they cannot afford enough food to provide 2,250 calories a day. Well over half these poor are women who have limited ownership of land or other assets and limited access to credit, well-paying jobs, and educational opportunities (Grown and Sebstad, 1989).

Within traditional and non-traditional households in Africa, women have always contributed economically; and the importance of their income earnings is increasing rapidly. Poor, often landless, families many times simply cannot survive without the woman's earnings. Studies show that women spend more on family necessities if earnings accrue directly to them (Gerhart, 1989; Saito and Weidemann, 1990). Women's non-remunerative traditional roles such as child-bearing, child care, and household work adds to the economic importance of women's work.

Conformity to gender-related roles in most traditional societies, particularly in Africa, has hampered women's education, participation in paid employment and other income-generating and developing activities. This conformity has also tended to reinforce their demonstrated roles in reproduction and care giving at the domestic level. This phenomenon may be a possible explanation for the high birth rates characteristic of developing countries. High fertility rates may also contribute to poverty in many other ways.

Developing economists have long known that population and economic growth are intertwined issues (Finance & Development, 1988). In the

developing world, the trend toward rising populations poses a particular problem. With greater access to resources, women will be in a stronger position to affect both population trends and economic growth, thereby affecting changes in the status of women and standards of living for families.

Education and fertility are two other interacting factors affecting development. Examples from the developed countries have shown that socio-economic improvements over the long run lower fertility and slow population growth (Finance & Development, 1988). Higher education levels and greater social awareness of the need for family reproductive planning help reduce fertility. At the same time, employment opportunities in non-traditional areas for women increase with education, thereby requiring more income to provide surrogate care for children, and this, too, leads to a decrease in the number of children born to a family. Education also increases women's awareness of the need for contraceptives and the choices available to them. Africa's population is now 677 million (Population Reference Bureau, Inc., 1991) and it is growing faster than any other region of the world. If its present growth rate is not altered, Africa's population will triple by the year 2028 (Burdett, 1988).

#### Changing roles of Sudanese women

Women in the Sudan, like women in other developing countries, are experiencing changes in their traditional roles and are engaged in other activities that contribute to the support and welfare of their families.

However, Elbakri and Kheir (1989) noted that the Sudanese woman's contributions to society have not received adequate recognition because her roles of reproduction, child-rearing, family maintenance and other domestic production activities, including farm production, have historically not been documented. The reason is that these activities were viewed as private and personal aspects of life and therefore are not worthy of serious consideration. Because of this bias, women who have made important contributions in the Sudan's history have been left out of historical records, thereby downplaying their contributions to society and development.

Nevertheless Badri (1990) notes that the changing socio-economic and political conditions in the Sudan have brought about changes in traditional gender roles. Badri states that many women are now becoming heads of households as a result of "men migration and men's absence for war." Consequently, women and girls, besides their traditional roles, are assisting, through various activities, in providing other forms of support for their families. Women are expected to work and many males now expect financial contribution from female members, some are demanding that contribution (Badri, 1990). Sudanese women are now moving out of strictly traditional roles and are helping provide family support through activities such as food processing, preparation and selling of food, making and selling of handicrafts, perfume, toiletries, and tailoring, among others. Husbands expect wives to participate in decision making and assume responsibilities in their absence. These changes are occurring both in the urban as well as the rural setting, with greater recog-

nition of the importance of education for females (Badri, 1990). More Sudanese women are now able to travel within and outside of the Sudan in pursuit of education and other training opportunities. With expansions in Sudan's educational system more women, especially in the urban areas, have access to education and professional training. Relatively more women are now employed in professional areas such as teaching, nursing, and midwifery. Women graduates are also able to work in government administrative jobs. More and more women are getting into non-traditional occupational areas as women gain more access to education.

#### **Women and Labor Force Participation**

Women comprise an estimated 32 percent of the measured labor force in developing countries, the majority in microenterprise activities (USAID, 1990). Women are participating in a variety of entrepreneurial activities. Women comprise more than 40 percent of the world's agricultural workers (United States Agency for International Development, 1990). This number continues to grow as more men in developing countries migrate to cities and towns to seek employment, leaving women behind to work the land. A study by Vellenga (1970) found that women in Ghana not only owned and operated food farms, but also managed cocoa farms, often acquired through their own resources. At that time, cocoa was Ghana's main export commodity. In some African countries, women grow up to 80 percent of the food. Women are involved in every type of agricultural activity, putting in long hours as producers, distributors, processors, storers and marketers of food.

Roughly one-third of all households in the developing world are headed by women. In the cities of Latin America and the rural areas of some African countries, the percentage is closer to one half (United States Agency International Development, 1990). In many rural areas of developing countries, especially in Africa, absentee husbands are a widespread phenomenon. The 1969 census showed that in Kenya, about 525,000 rural households are headed by women (Palmer, 1977). Women who do not have the problem of absentee husbands still play "head-of-household" because in technologically underdeveloped rural economies, women rather than men, produce and deliver most of the goods and services required for their satisfaction (Palmer, 1977). These functions are traditional responsibilities of women.

A survey in Mali showed that 16 percent of families depend solely on a woman (Kisekka, 1981). A 1978 study in Swaziland revealed that 30 percent of households had no adult males normally in residence (Fion de Vletter, 1978). Estimates for Lesotho are even higher (UNECA/ATRCW, 1978): almost 40 percent of the male working age population is always away in the Republic of South Africa as migrant workers (International Labor Organization, 1978). Only two-thirds of households with absentee males were receiving regular cash remittance (Vletter, 1978). In fact, in some cases, women farmers often end up supporting their city-based husbands in the form of sending farm produce to them. A survey of Yoruba families in Nigeria showed that one-fifth of women received no support from their husbands (UNECA/ATRCW, 1975b).



Women work longer hours than men in their efforts to provide basic necessities, including food, income, fuel, water and shelter, for their families. In parts of East Africa, women work up to 16 hours a day doing household chores, preparing food and growing 60-80 percent of the family's food, in addition to caring for children, the elderly or the ill, and disabled.

Women continue to play the role of "second-class citizens" in most societies in the developing world. Discrimination against girls is widespread. Eight out of nine cultures that express preference want more sons than daughters (United States Agency for International Development, 1990). Research in Bangladesh, for example, reveals that boys under 5 years old were given 16 percent more food than girls that age, and in India boys were given more nutritious foods than girls (United States Agency for International Development, 1990). Discrimination against women has led to conditions that have further compounded the difficulties faced by women. These include among others: 1) lack of agricultural training, extension services, technology, credit, and ownership of land. Various cultural, traditional, legal and policy barriers exist to deny them the same flexibility and productivity enjoyed by male farmers. 2) Lack of adequate representation of women at the policy-making level. Thus women's needs and interests are not adequately catered to when deciding on national economic policies. Women tend to be found in very low-skill jobs, with little room for advancement, training, or salary increase. 3) Lending policies and bureaucracy in the developing world tend to make it almost impossible for women, especially those with

limited education and resources, to obtain credit to start a business or improve on an existing one. Thus women are limited as to the advances they can make in their businesses and also their ability to compete with their male counterparts.

Several changes have occurred in women's traditional roles in both developed as well as developing countries. Of interest to this study are changes that have occurred in the areas of education, employment, agriculture and entrepreneurship and the impact that these have had on women in Africa, especially in the Sudan to improve their quality of life and those of their families. Women in Africa have experienced both positive and negative impacts of change.

#### **Women's Economic Roles**

The issues surrounding the economic role of women in development reflect traditional, social, cultural, legal, as well as individual personal factors, and vary from one country to another (World Bank, 1990b). They also differ in accordance with the various stages of social and economic development, and to location-specific needs and situations of women.

Women everywhere contribute to economic production. As officially measured, 41 percent of the world's women aged 15 years and over are economically active. Another 10-20 percent are economically productive but not counted as part of the labor force because of inadequate measurement (Boserup, 1970). Women have been recognized as key actors in the process of development, but that recognition has not extended to the

critical constraints they face both as a group and, as individuals, to actualize themselves in society (Chambers, 1983; Cole, 1986; Bookman and Morgan, 1988).

Central to the problem of development is the issue of power. Power, as defined by Giddens (1977), is "the use of resources to secure outcomes." According to Beneria (1982), oppressive practices that deny women access to resources are commonplace. She notes that these practices are

... embodied in such basic economic institutions as male-centered inheritance systems, unequal distribution of revenues between the sexes, asymmetry in the sexual division of labor, and discrimination in employment and wages (p. xii).

In the formal employment sector women workers tend to be segregated and confined to certain sectors--usually the menial and less skilled jobs. Mackintosh (1981) notes that women are usually found in lower paying jobs, they are usually found in the lower hierarchy of authority and have "comparatively poor conditions of work." This evidence has been collaborated for industrialized countries as well (Phillips & Taylor, 1980; Amsden, 1980). Elson and Pearson (1981) as well as other researchers (Blake & Moonstan, 1981; Grossman, 1979; Lim, 1978) have documented similar work conditions in the Third World. Mackintosh (1981) further notes that the existence of sexual division of labor extends beyond the sphere of waged employment.

Where women work in waged employment, their earnings in most instances are comparatively lower than their male counterparts (Sebstad, 1990). This is because most unskilled women and sometimes professional women tend to be concentrated in jobs traditionally considered "women's work." These jobs usually pay lower wages regardless of training and skills required (Rodgers, 1986). Job discrimination practices sometimes deny viable job positions to women. Some employers may prefer male workers who would not need time off for maternity leave, or provide care for an infirmed family member. Women may also be barred from taking up well paying jobs because of social and "cultural taboos" that prevent women from indulging in certain occupational activities.

Research on female heads of households in the U.S. indicate that even when female family heads are employed they tend to earn less than male heads of households (King, 1978; Trieman and Hartman, 1981; Rytina, 1982; Kessler-Harris, 1982). In 1983 female headed households in the U.S. had a median income from all sources (i.e., wages, welfare benefits and child support) of \$11,789, compared to \$25,592 for male headed households (Bureau of Census, 1984).

Until recently, women's productive activities have not been counted as contributing to national economics. This was due to the fact that their activities performed outside the household tasks are seen as an extension of their responsibilities, be it related to small-scale enterprise development or farming. These activities had until recently, received no recognition as contributing to the national economy. As a result, no special attention and recognition had been given to women's

income-generating activities and other forms of employment in the informal sector to warrant documentation, included and budgeted for during national development planning. Boserup (1970) noted that a lack of documentation and gender-based desegregated data posed a major constraint to the study of women's development activities.

### **Women and Economic Development**

Although it has not been easy to measure women's economic activities, a number of sources indicate that woman's labor force participation has been steadily increasing (Schultz, 1990; Berger, 1989; World Bank, 1990a; and Grown and Sebstad, 1989). Trends in labor force participation rates, however, vary by region. The Latin American and Caribbean regions have shown the greatest increases in the developing world (Berger, 1989; Schultz, 1990). While participation rates are on the increase for East Asia (Schultz, 1990), data suggests declines in female labor force participation rates in South and West Asia (Schultz, 1990). World Bank data (World Bank, 1990b) on India indicate that while the proportion of women in the non-agricultural sector has declined, female labor participation rates in the urban informal sector has grown and in some instances even exceeded the male participation rate. Evidence from Sub-Saharan Africa indicate that prevailing economic conditions are forcing greater numbers of women to participate in the labor force (Lewis and Russell, 1989; Grown and Sebstad, 1989).

The problems of unemployment in developing countries has forced several female workers to enter the labor force through the micro-enter-

prise sector. The majority of new female workers in Africa, Asia, and Latin America are employed in this sector.

Income that accrues to women through different economic activities generally tends to be put to family welfare. Research in Africa, indicate that husband's earnings do not automatically translate into improved living conditions for the family (Bruce and Dwyer, 1988; Mencher, 1988). Women in Africa, especially those in polygamous households tend to contribute larger proportions of personal income towards household expenditures; as opposed to men who retain more for personal spending. Again in African traditional societies men and women have separate expenditure responsibilities.

Research findings also exist that suggest women's expenditures have important income multiplication effects (Downing, 1990). Unlike men, women's income is more often spent on locally produced foods and purchasing raw materials for entrepreneurial activities.

#### **Women and Labor Force Participation in the Sudan**

In the international definition, production of primary products such as food stuffs for own consumption and certain other non-monetary activities are considered economic and persons engaged in such production are considered economically active. Work need not be full-time for a person to be considered economically active (United Nations, 1986).

A United Nations study conducted in 1986 showed that 24.1% of Sudanese women are actively and economically engaged in agriculture. The

same study also showed that about 20.2% of the women between the ages of 15 and 59 years were economically active.

A study conducted by Mustafa in 1985 indicated that Sudanese women make up only 21.4% of the total labor force; and that the proportion of females to males in the labor force was 27.3%. Females made up only 9% of clerical workers, while they constituted 25% of professional and technical workers; and only 5% of production workers. This last figure shows a gross misrepresentation of the extent of women's involvement in various productive activities. Statistics shows that 92% of all rural women in the Sudan are involved in agriculture and other productive activities (Mustafa, 1985).

Economic activities of Sudanese women and women in the developing countries are often underrated because of stereotypical perspectives of researchers who tend to play down the importance of women's remunerative work. Most researchers in the past were men and tended to measure what constituted economic activity from a male perspective.

Women in the Middle East and North Africa have the lowest rates of labor force participation in the world (Townsend and Monsen, 1987). It is estimated that less than one quarter of women aged 15 or more are engaged in waged work or trade. It is estimated that the number of women in formal employment in Syria, Algeria, Saudi Arabia, Libya, and Egypt, is below 10 percent.

The situation of women in the Sudan is similar to women elsewhere in the developing world, especially women in other Muslim cultures. Labor force participation rates and the types of activities that women in the

Sudan engage in is primarily governed by tradition, cultural norms, and the socioeconomic conditions of the women. Activities undertaken by women also vary according to the different regions of the Sudan (Washi, 1992).

According to the Sudan's Six Year Plan of Economic and Social Development, the participation of women in the labor force is 13% of the total, especially in agricultural production (Government of Sudan 1977, cited in Sayed, 1981). Over four-fifths of the working population of women are concentrated in the rural areas. Sayed (1981) notes that many women shoulder the burdens of housework and child care as well as labor in the field. He notes further that, "... opportunities for paid employment are minimal for women. This does not mean that women are unemployed...." (Sayed, 1981 p.119).

In the agricultural sector women are involved in almost all phases of production. As noted by Sayed (1981) during the cleaning and seeding activities, women work for six to seven hours daily, whereas weeding and planting may take up to ten hours daily. Sudanese women, for example, play important roles in the cultivation of food crops such as groundnuts, wheat and vegetables for cash. They also cultivate okra which is a staple in the local diet, and watermelon which serves as an important source of fluid (water) especially during the "dry seasons" (Sayed, 1981). According to Sayed, Sudanese women, besides their household tasks, engage in other activities to earn additional income for family sustenance. These activities include processing butter and cheese from milk, and oil from groundnuts and sesame. Rural women also make carpets,



mats and ropes from local raw materials. Income generating activities that are undertaken by women vary in different regions of the Sudan, but the overwhelming majority of women in the rural setting engage in activities related to agriculture and livestock. A study by Damons (n.d.) cited in Sayed (1981) notes, however, that in certain blocks of the Gezira cotton growing scheme, while wives of smallholder tenants play significant roles, women married to tenants with larger holdings rarely work.

Sudanese women, historically, have made and still continue to make significant contributions to Sudan's economic development. Not surprisingly though, these economic contributions have not been acknowledged publicly and, until recently, have not been given serious consideration in the area of national economic development planning. In pre-Colonial times, Sudanese women played major roles in agricultural activities, animal husbandry and trade; in addition to their major household responsibilities as care givers and engagement in other home-based "industries" such as food processing and weaving (El Nagaar and Salih, 1989).

Women to date play a major role in Sudan's agricultural industry. Information presented in Table 3 indicate increases in female tenants in the Gezira cotton scheme between 1962/63 and 1973/74. Women's contributions in other income earning areas have also seen major increases as a result of economic attrition and other changes occurring in society. As stated by Badri (1990) changing socio-economic and political conditions in the Sudan have necessitated and resulted in changes in traditional

Table 3. Female tenancies in the Gezira Scheme, 1962-1974

Season	Total no. of tenants	Female tenants	% of female tenants
62/63	73,249	6,475	8.82
63/64	76,015	7,022	9.24
64/65	78,061	7,382	9.46
65/66	78,192	7,376	9.43
66/67	83,154	7,608	9.15
67/68	85,854	8,841	10.30
68/69	89,346	9,430	10.55
69/70	89,911	9,569	10.64
70/71	92,873	10,218	11.00
71/72	93,473	10,311	11.03
72/73	94,218	10,635	11.29
73/74	94,677	11,048	11.67

Source: El Sayed, 1987, p. 25.

gender roles, especially in the family dynamics. According to Badri, women now participate in several activities which had until recently been exclusively reserved for men. Women's economic activities include making and selling of handicrafts, preparation and selling of food, tailoring, "perfume makeup," making of toiletries, petty trade, and barter trade.

Women in the rural setting, with comparatively little or no education, engage primarily in agricultural work. As a result of national agricultural policies, many women no longer work on their own land, but instead work as waged farm laborers. Much as official statistics tend to underestimate the numbers of women participating in the labor force,

official census data indicate that the percentage of females participating in the total labor force increased from 21.4% to 22.1% between 1956 and 1973 (Mustafa, 1985). Sudan ranked third in crude labor force participation rates when compared with other Arab and Muslim countries. Sudan's 1973 and 1983 census figures indicate that labor force participation rates for women in urban areas increased from 9.8% in 1973 to 14.9% in 1983, an increase of roughly 33% in a ten-year period.

The numbers of women participating in the industrial sector have however continued to remain low. Industries would not employ women who would not be able to work night shifts. Besides industries might consider maternity leave an interruption to women's work routines, not to mention the cost of paying for women to go on maternity leave. In recent times, however, drastic increases have been recorded in the number of women working in industry as a result of men migrating in search of better paying jobs; also low wages paid to unskilled workers by industry are normally not acceptable to men. Women are forced to take low paying jobs in industry as a result of illiteracy and poverty. Again, this category of women are easy targets for exploitation by male supervisors, directors and administrators (El Nagaar and Salih, 1989). Women in industry tend to perform lower-paying tasks.

Regional variations exist in women's labor force participation rates in the Sudan. Variations also exist in the types of nonformal employment and activities that are undertaken. In both urban and rural areas of the Sudan, the average woman who is given permission to work outside the home engage in self-employment activities considered suitable to women.

In urban areas, most women, including migrant women, engage in petty trading activities. These include selling of food, traditional bread (Kisra), dried meat, chicken, eggs among others. Other items that may be sold include jewelry, handcrafts, and housewares. Women in the traditional sector contribute significantly to the local economy through agricultural activities, including livestock care, agro industry especially food processing, handicraft production, and also petty trading. In the rural sector, women, besides their household activities, processed butter and cheese, oil from ground nuts and sesame, made mats and ropes from raw materials.

In western and southern Sudan, women also play important roles in agriculture. Apart from agricultural activities, they are unofficial "architects" in the housing construction industry. They are also the main "entrepreneurs" in various cottage industries (El Nagaar and Salih, 1989). Generally, labor force participation is influenced by the woman's educational attainment, labor market conditions, and gender discriminatory practices, regional and prevalent cultural expectations, values, and also industrial labor laws that usually work against women's interests. Again, Sudanese women with university education have better job opportunities and have higher labor force participation rates.

In spite of increases realized in women's participation rates in the formal employment sector, women's participation continues to be lower than that of their male counterparts.

### **Women in Agricultural Production**

In Africa, about 85% of rural women are farmers and they grow and process as much as 80% of the food needed for family consumption (Cornia, 1987) and maintenance. Improvements in smallholder farming techniques can be very effective both for improving household food security and for empowering women, but little or no improvements have occurred in farming techniques of the smallholder farmer in Africa. Unlike their counterparts in Asia and South America, Sub-Saharan African subsistence farmers have not benefited from new crop varieties. This may be because agricultural extension workers have a bias favoring large holders; extension agents are usually men addressing their programs to men. At other times, women farmers may lack the resources to acquire new crop varieties or purchase inputs required for their maintenance.

### **Women in Sudan's Agriculture**

Information from the 1977 Six Year Plan of Economic and Social Development indicate that 13% of Sudanese women participate in the labor force, particularly in agriculture. More than four-fifths of the working population of women are concentrated in the rural areas of the country (Sayed, 1987). Women in the rural areas, apart from their involvement in traditional subsistence agriculture, also engage in other income generating activities such as handicraft production.

According to Sayed (1981) more women tend to participate in the traditional rather than the modern sector of agriculture. He notes also that more chances of education and alternative employment opportunities

are available in towns and cities than in the countryside. Even in modern agricultural schemes there is little female involvement in agricultural production. This has been attributed to the introduction of tractors and machine harvesting.

The number of women migrating and working in the Gezira cotton scheme has seen steady increases over the years. Many women in the agricultural sector are involved in land tillage, hoeing, weeding, and harvesting.

Women constitute the backbone of Sudan's subsistence agriculture. The proportion of women actively involved in horticultural activities in Wadi Kutum, for example, is 80% of the total labor force. This remarkable rate has its origins in the historic right of women to work in the fields (Umbadda & Abdul-Jalil, 1985). In his study of agricultural production among the Nuba in Southern Kordofan, Araujo (1981) noted that women constitute a large and often overlooked portion of the labor force due to male migration in search of wage income and women's obligation to follow through with female traditional contributions.

Cotton is still the most important crop in the Sudanese economy. The picking operation, for socio-economic reasons, is limited to women and children. The wage rate according to Babiker and Ahmed (1988) is too low to attract enough of the local hired laborers. Sudanese women are also involved in subsistence agriculture in spite of their contributions to commercial agriculture.

The number of female tenants who participated in the Gezira scheme rose from 8.82% in 1962/63 to 11.67% in 1973/74 (Sayed, 1981).

### **Sudanese Women's Entrepreneurial Activities**

Sudanese women, like women in other African countries, engage in traditional handicraft production, food processing, agriculture-related small-scale enterprises (including in some cases food contracting and retailing), animal husbandry, and trade. Many women in Africa, Asia, and Latin America now joining the labor force operate in such micro enterprise activities; this is because with limited education, lack of capital and technical know-how, they have little or no access to compete or participate in the formal employment sector. Incomes accruing to women from various micro enterprise activities is spent for household survival needs, besides contributing to national economic growth and development (Downing, 1990).

Small scale entrepreneurial activities undertaken by women in developing countries also include cooperative farming, food processing, textile production and design, trade in textile products, handicrafts, restaurant management, fishery and poultry farming, transport (some women in West Africa own transport fleets, while some women's cooperative groups own fleets of transport), home sewing industry, hair salon operations, housing estate management, food contracting, operation of day care centers, and import-export ventures. This list is by no means exhaustive.

A number of educational programs and funding projects are currently underway to train and assist women to better manage their entrepreneurial activities. Most women who undertake entrepreneurial activities (espe-

cially rural women) do so for survival, security, and sometimes for autonomy and self-esteem.

The majority of women who undertake entrepreneurial activities do so on an individual basis. Few countries have women's organizations that oversee and promote women's cooperatives. These cooperatives are attractive to women for a number of reasons: incentives include women's access to, and control over, their productive resources--land, labor, capital, technology, marketing; control by women over the product of their labor; the development or strengthening of an organizational base among disadvantaged women; and sympathetic attitudes by the community, including husbands, and/or other external forces such as the government and aid agencies, or at least individuals within them (ILO/DANIDA/80/INT/35, 1987). Much as changes are occurring in women's roles and living conditions, basic health-related needs such as family planning, maternity care, and child care services; nutrition; lack of technology; and access to capital resources, still limit advances that could be made in women's conditions.

### Women's health

Women's health cannot be divorced from the day to day lives of women, and "acted upon with purely technical solutions" (Koblinsky, Timyan, and Gay, 1992). Issues related to women's health extend beyond the reproductive cycle to encompass all aspects of their physical, psychological and social well-being (Mukuria, 1989). Women, quite apart from maintaining their own health are also responsible for protecting and



providing for the health needs of their families. Women's health status is directly linked to the health status of their offsprings and their communities; and also to development concerns.

Health is an integral part of the political, economic, social and cultural milieu in which women live. Women's health is strongly conditioned by the political and economic environment in which they live, the society of which they are a part, and the cultural belief system that organizes and gives meaning to their life (Koblinsky, Timyan, and Gay, 1992).

In both industrialized and developing countries, women have been known to compromise their own safety as well as those of their children for economic gains. Young women in Zambia, for example, despite knowledge of the dangers of contracting HIV infection, engage in prostitution, because of economic need. In parts of Bangladesh, women may opt not to seek medical care during a difficult labor because it leads to a loss of prestige for her family. In traditional societies, the sex of a doctor affects access to health care, because of strong social norms that govern correct behavior between males and females (Koblinsky, Timyan, and Gay, 1992). Female circumcision practices in some parts of Africa, sometimes leads to severe mutilation, infection, and in isolated instances, even death. Circumcision not only mutilates a woman but also robs her of her right to full sexual fulfillment.

A 1989 Centre for African Family Studies (CAFS) report cited in Mukuria (1989) estimated that women of child bearing age (15 - 49 years) in Sub-Saharan Africa numbered 125.3 million. Maternal mortality rates

was estimated at 7 per 1,000 live births, with approximately 17.5 million live births per year. Infant mortality in the region was estimated at 125 per 1,000 live births. CAFS also identifies other key areas affecting women's health and welfare to include immunizations and infectious diseases; family planning, maternity care, and child care services; and nutrition.

#### Immunizations and infectious diseases

Maintenance of the health of mothers and children will depend on immunizations and effective treatment for infections and parasites. Developing country populations including the Sudan, continue to suffer from communicable diseases, infections, parasites, and other health conditions related to environmental hazards. Women who work as waged laborers on commercial farms may also run the risk of pesticide contamination. In the case of the Sudan, it might be very difficult to assess the overall health condition from disease records because of the absence of accurate data and records. However, and generally, typhoid and malnutrition were common among rural women. Probably more women than men were affected by these diseases in rural areas because women usually take the task of bringing water for the household. This task usually expose them to insects and water-borne diseases. Also, these tasks require effort that usually affect women's health (Badri and Badri, 1994).

#### Family planning, maternity care, and child care services

According to Potts (1986), birth estimates for 1980 was 130 million; projections are that the number will reach 163 million by the year 2000.

Over 85% of these births are expected to occur in the developing world. The developing world accounts for 76% of the global population, 96% of infant mortality, and 99% of maternal mortality (Kessel, 1983). In African traditional cultures, there is usually an intense social pressure on women to produce children. In the Sudan, especially among the Muslim cultures, early and universal marriage has traditionally served to further the fulfillment of women's primary role--that of reproduction. A newly married couple is usually subjected to strong pressures for "the family to become three". A childless woman is considered a failure. Social pressure for the couple to reproduce does not end with the birth of the first child. Any undue delay in subsequent conception(s) may cause a husband to take another wife (Department of Statistics, Sudan, 1979). Women's health may suffer as a result of multiple pregnancies. In traditional African society, it is the man--not the woman--who determines the number of children that should be born to a family. A woman whose husband disapproves of the use of birth regulation measures may not feel free to avail herself of family planning services.

The fertility level of the Arab population (of which Sudan is a part) is one of the highest in the world with an average birth rate of 42.7 per 1,000 population in 1983. The overwhelming majority of Arab governments have not yet felt the need to initiate policies to reduce fertility (Favour, 1988). The Sudan is one of the few countries that have population planning programs in place. However, demographic surveys confirm a low level of contraceptive use. Elbakri (1989) associates this trend to women's traditional roles of childbearing and child rearing.

Gender role orientations of the self or others may serve to determine the behavior of individuals within a social setting (Mednick and Weissman, 1975).

In most developing countries, especially so in the rural areas where most women live and work, infrastructures to provide health and maternity care to women are not able to reach all areas of high risk (Mukuria, 1989). It is not uncommon for women in some rural settings to walk long distances to get to the nearest health care facility. Women in labor may sometimes be forced to give birth "in transit" with minimal sanitation provisions and assistance. Traditional birth attendants come in handy in the rural and sometimes in the urban areas where families cannot afford the cost of hospitalization. Rural areas of developing countries generally face a shortage of qualified midwives; women often give birth alone or with the help of a traditional midwife. In the Sudan some traditional midwives have been given training, thus allowing them to fill an important gap in the health service while reducing the previous dangers inherent in their working methods (Wallace, 1985).

Hospital surveys indicate that in Khartoum City, bleeding associated with pregnancy was one of the major causes of deaths among women. However, other studies suggested that anemia was the most common cause of women's deaths followed by other pregnancy related diseases. Lack of medical facilities and other medical services significantly contributed to maternity-related deaths. Lack of facilities to perform C-section, for example, is a major handicap (Badri & Badri, 1994).

Another major setback for women of childbearing age is the problem of child care. Lack of community support services for child care pose problems for women. Access to these forms of services will enable more women to free themselves of child care responsibilities to participate in other income generating activities. Lack of child care services often lead to the practice where female children forego formal education because they have to stay home and provide assistance to the mother.

### Nutrition

Family nutrition in Africa, especially in the rural settings, can sometimes be directly linked to the availability of and accessibility of good farm land. Chronic under-nutrition (especially protein-calorie), for example, is a major problem (UNICEF, 1989). In addition, seasonal food shortages, lack of food processing and storage facilities; and natural disasters such as droughts and floods sometimes plunge families, especially small holder families, into near-famine conditions. Irrespective of what seasonal problems may exist, women are expected to provide food and water to satisfy family needs. In the Sudan the rural woman with a family may make several trips a day to the water source in order to carry and bring water home for her family needs. Naturally, several hours are expended and long trips are made to collect enough fuelwood or dung on a day-to-day basis. The most "arduous female task" is grinding millet (Tully, 1988). In the agricultural season, women are up an hour before dawn to grind grain. Most of the grinding is laborious as it is

still done on flat stones. The process is repeated at night as well.

Tully (1988), writing of the Masalit of western Sudan, observes:

... at the first light women and girls walk to the wadi with pots on their heads; in the late afternoon, when the heat sometimes eases, they go again. Their agriculture and other economic activities must co-exist with the demands of female familial responsibilities (p.81).

The above description fits the "lifestyle" of most rural women in developing countries. Much as women toil to grow, harvest, process, store their agriculture produce, and go through laborious processes preparing family meals, women are obliged by tradition to ensure that men, followed by boys in the family, are served first and given the best part of the food. Some traditional norms prohibit women from indulging in certain types of foods--foods that would otherwise be deemed beneficial for their health. Women and children in traditional families where cultural norms determine accessibility to family food and what types of food women and female children are allowed to eat, may lead to nutritionally related health problems for women. Women who are breast feeding especially may suffer a decrease in quality and amount of breastmilk output. Women, and also children of pregnant and lactating mothers who live under these kinds of conditions, may suffer nutritional-related health problems.

Rural women in Africa usually lack services that support women's existing functions, services that provide new skills and knowledge that will broaden and improve women's ability to adapt to changing social

situations and technologies, including services that promote the development of an effective institutional infrastructure within their physical and social reach, through which they can articulate their felt needs and increase their self-reliance in solving their problems (Mazumdar, 1978).

### Access to technology

Technological change could have both favorable and unfavorable effects on the position of rural women. Several researchers have pointed to women's sufferings associated with negative effects of technological and socioeconomic changes brought about by the development process (Dey, 1975; Palmer, 1975a; Germain, 1975, 1976; Olin, 1977; Zeidenstein, 1975).

A woman from an industrially developing country, according to Pietila and Vickers (1990), characterizes economic development as "women's worst enemy." The most significant forms of technological change affecting women are not innovations aimed directly at them, but rather are the indirect consequences of planned and unplanned innovation in the rural production system as a whole (Whitehead, 1985).

The 1980 World Conference of the United Nations Decade for Women (Copenhagen) expressed concern about the frequently negative impact of technological advances on women. A general trend remains in which women are excluded from access to the development and diffusion of new technologies (Sandhu and Sandler, 1986). Until recently, efforts have not been made to develop technologies that decrease women's workload or reduce the drudgery of their tasks (Chambers, 1983) to enable them to engage in other economic activities outside the household. Women have

been disadvantaged due to the fact that industrialization policies favoring large-scale, capital intensive production clearly worked to the disadvantage of small-scale female employment (ILO, 1978c).

Within the African context, agricultural modernization has been associated essentially with two types of change: the initiation of new farming methods and the popularization of cash-crop farming (Date-Bah, 1981). African peasant agriculture is based largely on family labor; the impact of modernization on women is felt essentially through the effect of family labor use. Agricultural modernization has tended to marginalize rural African women farmers and increase their work burden, without necessarily creating any increase in their incomes; in some cases modernization leads to an absolute decrease in women's incomes and their capacities for self and family sustenance. A study by Vellenga in the late 1970s found that women in Ghana not only owned and operated food farms, but also managed cocoa farms, often acquired through their own resources. Cocoa at the time of the study was Ghana's main agricultural export crop.

Before the introduction of cash-crop farming in Ghana, members of the extended family or village--males and females, used to assist each other in food crop cultivation and harvesting (Date-Bah, 1981). With the introduction of cash-crop farming, male family members moved into pure cash-crop farming, utilizing the more fertile lands and other family resources, usually capital. Women are usually assigned land that is not needed for cash-crop farming (usually small and not as fertile). Women are left to fend for themselves and grow food crops that are needed for



family nutrition. In some instances women are no longer able to grow some of the traditional more nutritionally-sound crops (e.g., yams in the case of Ghana) without assistance from men, this is because of the intensive labor involved in yam cultivation. Thus women tended to grow less laborious (and not as equally nutritious) crops such as cassava, cocoyams, sweet potatoes and the like. The more balanced economic partnership which men and women had in the past no longer exist (Boulding, 1981). As the status of African women within their families and communities declines, their workload increases with the introduction of new technologies (Boulding, 1981). The Mwea rice irrigation scheme in Kenya not only deprived women of agricultural land, but the women had to put in long laborious hours at the project site quite apart from tending their small farms.

While men benefited from agricultural education and/or mechanized farming and high yield varieties, women were not catered for, and continue to rely on time-consuming, small, primitive, laborious, back-breaking, hand-held tools and agricultural techniques for their agricultural needs. Lack of agricultural assistance from extension officers, lack of access to technological information and resources has led to a decrease in farm yields. The rural woman's food crops, before the introduction of new agricultural schemes had been sufficient to meet the nutritional needs of her family; and at times, produced surpluses for sale, enabling her to control her income and use it for such expenses as paying school fees for her children, buying books and clothing and paying for health fees when the need arose.

Agricultural modernization in many instances led to improvements and higher productivity in (rural) Africa. It led to development, but this development did not lead to improvements in the quality of life of rural families. Men experienced higher productivity, thus becoming the entrepreneurial representatives of the domestic unit and best placed to make decisions and appropriate its cash earnings. The technology, however, did not have equal impact on family members--there was unequal adoption, making it inappropriate within the family context. Much as male heads of families and households make more income from agricultural innovations, the impact of their wealth is usually not felt significantly within the family. Ironically, the family's standard of living goes down. This is because men, unlike women, usually have other priorities for their money besides family needs. As a result of disempowering the smallholder (woman) farmer, she is marginalized and no longer in a decision making position to adequately oversee and maintain the welfare of her family.

Historically, cultural and socioeconomic factors have had a great impact on women's access to agricultural resources. As Boserup (1970) rightly points out, European settlers, colonial administration, and technical advisers are to blame for neglecting the female agricultural labor force when commercial agriculture was introduced into African countries. The African culture gives supremacy to men. Thus only men receive recognition, only men receive attention, resources, and extension education when commercial agriculture was introduced into Africa. Only male labor productivity increased. Only men were recognized as "farmers" because they had land ownership. Men not only tend to monopolize legal

access to land, get the subsidized farm inputs, receive most of the extension services, and dominate decision-making--they may also with impunity appropriate "the fruits of female labor" (Staudt, 1987). The monopoly by men of new equipment and modern agricultural methods to cultivate cash-crops while women were left to cultivate food crops with traditional methods, are results of cultural hierarchies, colonial administration, the legal systems that operate in Africa, institutional bureaucracies, and the lack of education for women farmers, among other factors. The rural woman has not yet benefited from the modernization process because of "unequal exchange flowing from disparities in labor productivity, economic power, institutional power, and political power" (Palmer, 1977).

Women farmers usually lack the time (as a result of household commitments and other familial obligations), influence (as a result of cultural hierarchies and male-dominated bureaucracy), literacy (due to the educational bias and cultural preferences for male education) and social affinities to be able to be in touch with government programs and facilities and receive technical information.

Lack of appropriate technology for farm and household use in rural and many urban households tends to impair women's efficiency, restrict their time, and dissipate their energy that could be utilized in participating in extension and other development programs. As noted by Greene (1985) a major obstacle to women's participation in development-oriented programs is a lack of time due to familial related commitments. In the rural areas of Africa, a woman may spend an average of 8 hours a day

collecting fuel and water, 4 hours on food preparation and 2 hours on other household chores. This is over and above the time they put into developing and maintaining their farms. It is not surprising therefore that an important need expressed by African rural women farmers in the Sub-Saharan region is related to technologies that will ease the burden of food processing (Saito & Weidemann, 1990).

The female smallholder farmer in Africa lacks technology that will help improve crop production (Saito & Weidemann, 1990). In most instances female agricultural productivity has consistently remained lower than their male counterpart. For example, it has been estimated that women's labor productivity has been consistently 70% less than males in the Gambia. Possible explanations may be due to lack of technologies that will allow women to engage in large farming operations, lack of resources to purchase agricultural inputs and adopt new technologies (like high yielding varieties), lack of agricultural information and also the heavy constraints placed on women's time as a result of their household commitments.

#### Access to capital resources

Legal and customary constraints in most developing countries usually do not provide the average woman adequate access to resources being provided under main development plans (Weidemann and Graig, 1990). Women's capacity to contribute to development is also often limited by cultural practices often incorporated into existing policies or laws, that tend to prevent them from availing themselves of development

incentives that will lead to greater productivity (Herz, 1988). Discriminatory attitudes, based on gender, retard women's access to resources needed for economic development activities. Female investment opportunities and entrepreneurial careers are hampered by difficulties related to access to formal institutional credit (ATRCW, n.d.).

The average woman in the developing as well as developed countries lacks the capital, technical and managerial know-how, access to credit, market, raw materials, and services necessary to expand or make improvements in productivity and income. In Africa and the Middle East, the problem of women's access to resources is compounded further by lower levels of literacy, and experience in wage employment (Clark, 1990). Also of relevance to roles played by women, and changes that are occurring in these roles, are the influences of family background or traditions, geographic location, and education. Research has shown that the above factors tend to influence the individual's value system, perceptions, as well as aspirations.

#### Family background and traditions

Family background, practiced traditions, including value systems, and the social setting contribute to shape perceptions that individuals hold of themselves and of situations they encounter in life. Gilligan (1982) noted, for example, that the traditional American woman has always been pampered and cushioned from the harsh realities of life. She asserts that from childhood, girls are not encouraged to participate in strenuous competitive activities, but instead are praised and rewarded

for their cooperation and charm. Much as such attitudes appear to be changing, they still, to a greater extent, appeal to most women's sense of social acceptance. In most traditional societies in Africa, and elsewhere, women are trained and brought up to cultivate a value system that will make them submissive to their husbands; such women, traditionally are "highly priced." Woo (1991, p. 12) alludes to Sandra Bern's sex role inventory which was introduced in 1970. The following items are traits that were selected by a large sample of undergraduates as desirable of men and women.

#### Masculine Items

Acts as a leader	Independent
Aggressive	Individualistic
Ambitious	Makes decisions easily
Analytical	Masculine
Athletic	Self-reliant
Competitive	Self-sufficient
Defends own beliefs	Strong personality
Dominant	Willing to take a stand
Forceful	Willing to take risks
Has leadership abilities	

#### Feminine Items

Affectionate	Loves children
Cheerful	Loyal
Childlike	Sensitive to other's needs
Compassionate	Shy
Does not use harsh language	Soft-spoken
Eager to soothe hurt feelings	Sympathetic
Feminine	Tender
Flatterable	Understanding
Gentle	Warm
Gullible	Yielding

Source: Woo, 1991, p. 12.

Girls in several societies (especially in African traditional settings) are implicitly or explicitly brought up to ultimately embody most, if not all, of the above feminine qualities. These orientations, undoubtedly shape the perceptions, interactions, values and aspirations; and to a greater extent also determine what constitutes acceptable roles for women and men within various societies. In general, women in both developed and developing countries are brought up to be "domestic managers," and "breadwinners" for their families. Even in situations where women are in high profile professional careers, working full-time outside the home, they have the basic responsibility for home management and child care. Domestic responsibilities in several societies contribute to determine career choices of women. Women tend to choose careers that will enable them to attend to their regular domestic responsibilities so as not to cause disruptions in welfare services to their families. Johnstone (1975) notes that while girls in several societies now have equal opportunities to receive education, "in principle, their occupational choice is frequently not given much attention; girls often receive biased advise, and are influenced by various, and often, unrealistic pressures of tradition, parents, teachers, the immediate environment, and marriage possibilities (p. 20). Johnstone further notes that, girls generally are not encouraged to be venturesome in their choice of career, and persistent in preparing for it.

Women in the developing countries who operate in the rural areas "face special cultural difficulties in many cases and are severely handicapped by the lack of adequate education, training and employment

for all" (Johnstone, 1975, p. 26). Most women in the rural areas have few options for work outside the home. Women in traditional African societies are taught to look up to their men for "support." Women who are able to engage in income generating activities and are able to provide for their own support as well as that of their children, would publicly often give the credit due to them, to the men in their lives. Women who are conditioned by traditional norms entertain the fear of departing from the norm; they still believe that certain roles are more appropriate for men. The role of family support is seen as a man's role. The environments in which individuals live tend to determine the kinds of opportunities and resources that are available for their development.

#### Geographic location

Opportunities and resources that would be available to individuals, to be channelled into personal, social, professional, and economic development would depend in part on environmental factors and forces that control these factors.

Africa to date remains the least urbanized continent (United Nations Development Programme cited in UNICEF, 1991). Most of Africa's populations live and work in the rural settings. Most rural economies are founded on agriculture. In Kenya, for example, women make up 54 percent of the rural labor force (Sebstad, 1992). Most rural women's lives are governed by traditional norms; and are in most cases confined basically to work as subsistence farmers; and primarily assigned reproductive and nurturance roles (Afshar, 1985). Educational attainments and mobility



for women in rural areas are generally lower than those of their counterparts in urban settings. Women in traditional settings with limited education and employment opportunities would not ordinarily migrate to urban settings to explore other development opportunities for fear of breaking strongly guarded traditional norms which stipulate that the woman's life should be centered around the home and service to family. Most rural women who adhere to traditions tend to lack mobility and the associated development opportunities. On the contrary, women who decide to seek other alternatives for better living conditions tend to migrate to urban areas. Most people who migrate from rural to urban areas do so for economic reasons; and as Lipton (1985) notes, rural-urban migration usually improves nominal incomes of migrants, although their real economic conditions may not improve. UNDP, cited in UNICEF (1991), estimates that Africa's urban population will double between 1985 and 2000 (from 174 million to 336 million). The bulk of the increase will come from rural-urban migration.

African urban areas have attractions for rural peoples, both educated and uneducated, because urban areas have more social amenities (Lipton, 1977; Anyang 'Nyongo' cited in UNICEF, 1991), opportunities for training and education, and employment possibilities exist in both the formal and nonformal sectors. Until recently, mostly men migrate from the rural settings to seek employment in urban areas. In such situations, the women, who are saddled with agricultural tasks and household duties, including child care, remain behind in the rural setting. Rural women thus usually tend to operate at a disadvantage compared to their

urban counterparts who usually have the opportunity for alternative employment, training, education, and relatively better health care facilities. A woman who lives and works in an environment with better social services, educational, and technological infrastructure has better opportunities for self-development than the one who lives in a rural setting and is severely handicapped by traditions. A study by Obbo (1982) of migrant women in Namwongo and Wabigalo in Uganda revealed that women who migrated to the cities did so in order to become economically independent, and also to achieve a sense of autonomy and equality. Migrant women from cities like Dakar, Lagos, Nsuka, and Nairobi revealed similar motivations and ambitions (Obbo, 1982).

### Education

Education is a basic human need. Through education individuals acquire skills and knowledge needed for survival, and also adapt to changes occurring in their social settings. Education enables people to acquire critical thinking skills and make informed decisions and choices that lead to improvements in their living conditions. Education is also instrumental to meeting other needs such as shelter, health care, adequate nutrition, safe drinking water and other sanitation requirements (UNICEF, 1991). In the final analysis, education is a capacity building tool which sustains and promotes development: it empowers individuals; it improves income distribution; it prepares skilled workers to manage capital, technology, services and administrations; it increases the productivity of the poor's primary asset, labor; and it enables people to

understand and address major social issues by spreading common mores, language and ideologies (p. 43).

In spite of the benefits associated with education, women's education in several societies continue to lag behind men in educational attainments. This is especially so in societies in several developing communities. Disparities continue to persist in the numbers of females and males enrolled in various educational levels, institutions, and subject areas of study in several developing countries (UNICEF, 1991).

Lesser enrollments of females in educational institutions may be explained by cultural, historical, ideological, religious and political systems that exist in these areas.

### Summary

The foregoing account provides an overview of the roles of women, specifically Sudanese women, and changes occurring in their traditional roles. Women's roles in Africa have traditionally centered around child bearing, providing for family welfare, and agricultural production. As part of the changes taking place more women now engage in paid employment sectors. More women also undertake various entrepreneurial activities to earn additional income toward family support. However, factors such as lack of access to capital resources, health services and health care, technology for farm and household activities, child care facilities, and other social support services, still pose obstacles to women's performance and productivity in their respective roles. In addition, family backgrounds, geographic location, and education, are noted as factors

that help determine the roles that women play, and also the changes that they are able to effect in their living and social conditions.

This study will test hypotheses related to Sudanese women's family background, geographic location, and education to determine their attitudes toward traditional gender roles and changes occurring in these roles. The following null hypotheses were tested:

1. There are no differences in attitudes toward traditional gender roles and changes occurring in these roles among women from traditional, transitional, and modern family backgrounds.
2. There are no differences in attitudes toward traditional gender roles and changes occurring in these roles among women from urban high-income, urban low-income, and rural low-income areas.
3. There are no differences in attitudes toward traditional gender roles and changes occurring in these roles among women with different levels of education.

### CHAPTER III - METHODOLOGY

The purposes of this study were threefold: 1) to determine the relationships between Sudanese women's family background (traditional, transitional, or modern), and their attitudes toward traditional gender roles; 2) the relationship between geographic location (urban high-income; urban low-income; and rural low-income areas) and Sudanese women's attitudes toward traditional gender roles; and 3) the relationship between education and attitudes toward traditional gender roles.

Findings in this study were based on an analysis of an existing data set which was collected by researchers and students at Ahfad University for Women in Omdurman, Sudan, in 1990. Permission was granted to this researcher by Dr. Amna Badri and Edith Grotberg, the principal researchers responsible for development of the research instrument and data collection, to analyze the data and use in this dissertation. A portion of the data set which was originally collected for the purpose of determining critical aspects of women's roles that would predict fertility rates in Sudan was analyzed to achieve the purposes of this study. The data included indicators that were used to describe Sudanese women's attitudes toward their roles and also toward changes occurring in these roles. Procedures followed for the study will be described in the following sections: sample selection, instrument development, data collection procedures, and data analysis.

### Sample Selection

The sample for the study was selected from the greater Khartoum area because it is the most urbanized area in the country and reflects the greatest impact of conditions related to changes in lifestyles and changes in the status of women. Another reason for selecting the greater Khartoum area was its proximity to the Ahfad University for Women (AUW). The study area also included areas served by the AUW Rural Extension Program. The criteria for dividing the groups according to the three geographic locations, namely, urban high-income, urban low-income, and rural low-income areas was based on the government's allocation of lands/housing based on hierarchies within the employment ladder. This tradition dates back to colonial times when higher-salaried and educated white collar workers were assigned more expensive housing with above average social services (Anyan' Nyong'o cited in UNICEF, 1991) (for example, pipe-borne water, electricity, and flush toilets), while blue collar workers in the cities shopped for affordable, usually lower-grade housing with fewer or no conveniences. Rural housing units were usually constructed of cheap raw materials, with practically no conveniences and were located outside the city limits.

A purposive sample selected for this study consisted of 600 women, including 200 urban high-income, 200 urban low-income, and 200 rural low-income families. Women were selected based on the following criteria. Women aged 12 through 35 years, not widowed or divorced, and who had lived in the geographic area for at least five years qualified for

inclusion in the study sample. Refugee women, women in polygamous relationships, and divorced women were excluded from the sample.

For the high-income and low-income urban samples, the sampling frame consisted of the geographic area of Khartoum, North Khartoum, and Omdurman. Criteria for differentiating between these areas included the kind of house occupied by a family. Areas selected for the study were easily accessible to AUW and enabled follow-up monitoring.

The Iowa State University Committee on the Use of Human Subjects in Research reviewed this project and concluded that the rights and welfare of the human subjects were adequately protected, that the potential benefits and expected value of the knowledge sought outweighed any risks, that confidentiality of data was assured, and that informed consent was obtained by appropriate procedures.

### **Instrument Development**

Data for the study were collected using a five-part interview questionnaire to collect information on demographic variables; housing and living conditions; parental roles; cultural, attitudinal and belief stereotypes; parental modernity towards child rearing and education; and description of the family. Permission to use an instrument called the Parental Modernity Scale (designed and tested by Schaefer and Edgerton, 1985) was obtained from E. Schaefer by E. Grotberg, one of the primary investigators involved in the design of the data collection instrument used in this study. The Parental Modernity Scale is designed to describe cultural and belief stereotypes in Sudan. The portion of the instrument

called Description of Family Report which seeks to differentiate among respondents on three family types, "traditional," "transitional," and "modern" was developed and tested by E. Grotberg. The portion of the instrument called the Description of Family Report (Appendix C, p. 128) was used to obtain information that was used to categorize the respondents into "traditional," "transitional," and "modern" family types. Respondents were requested to check which of the following statements best described their family.

- A. Traditional -- These families are close-knit and have a strong sense of kinship. Elders are respected and their advice is sought out. Parents love their children but expect obedience and do not hesitate punishing their children for disobedience. The parents like their children to be quiet and not to bother adults with a lot of questions. Boys are expected to have more freedom than girls and also to have more education than girls. Most mothers remain at home to assume child rearing and family responsibilities. The family respects the authority of the larger government units and respects the religious authorities.
- B. Transitional -- These families are undergoing many changes. Income is primarily derived from industry and civil services rather than agriculture and small businesses. Farmers are adapting newer techniques and machinery for farming their lands. More girls are receiving education and more women are taking jobs outside the home. The family kinship system is still strong, but certain members are selected to receive the



necessary education and training for a more technological and industrial society. Some families have moved from villages, leaving members of the extended family behind.

- C. Modern -- These families are interested in the development of each individual member of the family and promote increased independence. Parents love their children and want them to have opportunities to become whatever they wish. Both boys and girls are encouraged to attend school and prepare for careers. Parents are involved in community affairs and participate in organizations involving social improvement, including the rights of women. Political or religious authority may be challenged and children may question decisions of their parents. Many mothers hold positions outside the home and many fathers help with household responsibilities. (Appendix C, p. 128)

Respondents who selected "A" were described as coming from "traditional" family backgrounds; those who selected "B" were described as belonging to "transitional" family backgrounds; and those who selected "C" were described as belonging to "modern" family backgrounds.

The data collection instrument was reviewed by other researchers involved in research and documentation of women's activities for content validity and usability. The instrument (Appendix C) was pilot tested with a representative sample. Necessary modifications were made in the instrument before it was used with the study sample.

### **Data Collection Procedures**

Interviews using the interview schedule were administered by senior students in the Schools of Psychology and Pre-School Education, Organizational Management, and Family Sciences at the Ahfad University. Prior to the field interviews, a series of consultative meetings were held between researchers and students under the auspices of the Documentation Unit for Women's Studies. The intent of the meetings was to 1) review the data collection instrument to ensure that interviewers arrived at shared meanings and 2) explain the procedures involved in the data collection and how information was to be coded. Data for the urban high-income families were collected from Hai El Molazmin and Imtidad Bit El Mal in Omdurman and El Ryad in Khartoum. For the urban-low income families, data were collected from Um Bada in Omdurman. For the rural low-income families, data were collected from two rural locations, Wad El Bakhit and El Gamalab.

Students paired up to interview individual women, especially in the rural low-income areas; according to researchers who supervised the data collection, this was considered a more "culturally-correct" approach. Again, interviewing in pairs ensured that questions and responses were clearly interpreted and accurately coded. Periodic meetings were held during the data collection phase at which progress on the data collection was reported. Any difficulties experienced in the process were presented by the students. The researchers also periodically reviewed the students' records and offered suggestions where necessary. Any errors or omissions that were detected in the responses were ratified. Revisits to

women respondents were undertaken when necessary. Each interview lasted about two hours. When all the data were collected, the completed interview instruments were sent to Iowa State University for computer entry and subsequent analysis.

### **Data Analysis**

Six hundred interviews were completed. Of the completed interview instruments, 535 had usable data. The remaining instruments could not be included in the analysis because of incomplete data. Personnel from the College of Family and Consumer Sciences used the SPSS statistical package to code and store all responses. This researcher converted the data set to SAS before resuming statistical analysis.

Descriptive statistics, including frequencies, percentages, and means, were computed for the 229 variables for the entire sample. Because of the large number of variables involved, and in order to obtain information on the widest possible variety of variables, and also to increase the chances of isolating variables that individually or jointly will expand knowledge about the subject under study, a principal components factor analysis, followed by varimax orthogonal rotation, was run. This enabled a grouping of variables for the purposes of "removing the redundancy from a set of correlated variables with a smaller set of 'derived' variables or factors" (Kachigan, 1982, p. 378). The factor analysis procedure reduced the 229 variables to 26 factors (Table 4). Seven factors out of the 26 were retained for further analysis because

Table 4. Varimax rotation showing eigenvalues

Factor1*	Factor2*	Factor3*	Factor4*	Factor5*	Factor6*
3.586958	3.168848	3.144727	2.730359	2.690019	2.467191
Factor7*	Factor8	Factor9	Factor10	Factor11	Factor12
2.303031	1.995748	1.955029	1.849831	1.843428	1.826466
Factor13	Factor14	Factor15	Factor16	Factor17	Factor18
1.800734	1.751546	1.501112	1.474398	1.331778	1.224709
Factor19	Factor20	Factor21	Factor22	Factor23	Factor24
1.212822	1.000812	0.971156	0.955811	0.952866	0.940347
Factor25	Factor26				
0.932456	0.845929				

\*Factors retained for further analysis.

each had an eigenvalue in excess of 2.0. Loadings on these factors ranged (in absolute value) from 0.4 to 0.9 (Table 5).

The seven factors retained were then categorized. Descriptive names were assigned to each factor according to the high-loading variables within the factor. Descriptive labels were assigned according to a common element of the individual variables which load highly on the factors (Table 6). Descriptive labels are: 1) Group Meals; 2) Gender

Table 5. Summary of factor loadings of varimax factors

---

<b>Factor 1: Group Meals</b>		
P2Q37	0.93354	Men eat alone
P2Q38	0.92824	Women eat alone
P2Q39	0.70489	Children eat alone
P2Q36	-0.79155	Family eats together
<b>Factor 2: Gender Stereotypes</b>		
P3HCRR1	0.43982	Shameful for husband to prepare meals
P3E1	0.42226	Girls need less time in school
P3E2	0.65769	Boys take education more seriously
P3E4	0.60780	School more important for boys
P3E5	0.47176	Girls not as smart as boys
P6E6	0.67672	Boys better at science and math
<b>Factor 3: Socio-Economic Status</b>		
P2Q40	0.52302	House has electricity
P2Q41	0.59348	House has running water
P2Q44	-0.64606	Construction of home
P2Q45	-0.69102	Condition of home
P2Q20	0.46163	Father education
P2Q8	0.46835	Mother education
<b>Factor 4: Women and Political Participation</b>		
P3PP2	0.66881	Women should be active in political affairs
P3PP3	0.72180	Women able to join political organizations
P3PP4	0.52360	Women important in Sudan's politics
<b>Factor 5: Woman's Suitability for Politics/Social Equality</b>		
P3W2	0.41800	Women cannot work and rear children
P3W4	0.41544	Women do not take jobs seriously
P3SA	0.44048	Men should guide women's social lives
P3PP1	0.40853	Women should not hold public office
P3PP5	0.51881	Women too emotional to make political decisions
P3PP6	0.57786	Men should guide women in politics
<b>Factor 6: Children's Rights/Forward Looking/Change Agent</b>		
PM6	0.70567	Children should be allowed to disagree with parents
PM13	0.70002	Children have a right to own point of view
<b>Factor 7: Internal Efficacy/Autonomy</b>		
P3A3	0.90133	I am as competent as other women
P3A4	0.88507	I am as competent as other family member

---

Table 6. Reliability coefficients for factor items

Dependent Variable	alpha
<u>Group Meals</u>	0.91
Men eat alone	
Women eat alone	
Children eat alone	
Family eats together	
<u>Gender Stereotypes</u>	0.78
Shameful for husband to prepare meals	
Girls need less time in school	
Boys take education more seriously	
School more important for boys	
Girls not as smart as boys	
Boys better at science and math	
<u>Socio-Economic Status</u>	0.80
House has electricity	
House has running water	
Construction of home	
Condition of home	
Father education	
Mother education	
<u>Women and Political Participation</u>	0.74
Women should be active in political affairs	
Women able to join political organizations	
Women important in Sudan's politics	
<u>Woman's Suitability for Politics/Social Equality</u>	0.74
Women cannot work and rear children	
Women do not take jobs seriously	
Men should guide women's social lives	
Women should not hold public office	
Women too emotional to make political decisions	
Men should guide women in politics	
<u>Children's Rights/Forward-Looking Change Agent</u>	0.78
Children should be allowed to disagree with parents	
Children have a right to own point of view	
<u>Internal Efficacy/Autonomy</u>	0.94
I am as competent as other women	
I am as competent as other family member	

Stereotypes; 3) Socio-Economic Status; 4) Women and Political Participation; 5) Woman's Suitability for Politics/Social Equality; 6) Children's Rights/Forward-Looking/Change Agents; 7) Internal Efficacy/Autonomy. A negative correlation coefficient on variables indicates that "the meaning of the factor will be the opposite of the meaning of the variable" (Kachigan, 1982, p. 396).

### Reliability

Correlation analysis was run to determine the reliability of the derived factors (Table 6). Reliabilities for all factors retained for further analysis ranged from 0.7 to 0.9 (Table 6). A high level of reliability of factors will ensure reproducibility, which is basic to "any interpretation we place on our measurement and to any subsequent analysis to which the numbers may be subjected" (Kachigan, 1982, p. 218).

## CHAPTER IV - FINDINGS AND DISCUSSION

The purposes of this study were to determine if Northern Sudanese women with 1) different family backgrounds, 2) different geographic locations, and 3) different educational backgrounds differed in their attitudes toward traditional gender roles and changes occurring in these roles.

A purposive sample of 600 women, 200 from each of the following areas: urban high-income areas, also categorized as "modern" in terms of family background; urban low-income areas, categorized as coming from "transitional" family backgrounds; and rural low-income areas categorized as coming from "traditional" family backgrounds was selected for the study. Crosstab results indicated that 84.5% of the women in the urban high-income group were also from modern family backgrounds; 59.5% of those in the urban low-income group were also from transitional family backgrounds; 54.7% of those in the rural low-income group were from traditional family backgrounds (Table 7).

Women were individually interviewed for responses on various factors indicative of tradition, gender stereotypes, socio-economic status, women's equality, women's suitability and participation in politics, children's rights/forward-looking/change agency, and sense of internal efficacy or autonomy. Three hypotheses were tested.

### Hypothesis 1

Hypothesis one stated that there were no significant differences in attitudes toward traditional gender roles and changes occurring in these



Table 7. Percentage of family background by area of residence

Family background	Area of Residence		
	Rural Low	Urban Low	Urban High
Modern	5.82	5.52	84.54
Transitional	39.53	59.51	11.86
Traditional	54.65	34.97	3.61
Total	100.00	100.00	100.00

roles among women with traditional, transitional, and modern backgrounds. Results of crosstabs procedure indicated that 84.5% of women from urban high-income areas were from modern family backgrounds; 59.5% of those in the urban low-income areas were from transitional family backgrounds; 54.7% of those in the rural low-income areas were from traditional family backgrounds (Table 7). Analysis of variance results indicated significant differences at the .05 level on all factors except on the measure of internal efficacy and/or sense of autonomy (Table 8). A Scheffé test showed that no significant differences existed between individual groups on the factor related to internal efficacy or autonomy. Generally, women from the "modern" group showed more positive attitudes on factors related to socio-economic status, women's political participation, suitability for politics, and change agency. This group showed the least positive attitude in support of gender stereotypes and tradition. Women from the "transitional" group indicated responses similar to those of the "modern"

Table 8. Summary of the one-way analysis of variance for hypothesis 1

	n	Mean	F	Prob.	Difference
<hr/>					
<u>Group meals/tradition</u>					<u>1 2 3</u>
1 traditional	172	0.31	33.46	0.0001	
2 transitional	163	0.34			
3 modern	194	0.06			* *
<u>Gender stereotypes</u>					<u>1 2 3</u>
1 traditional	172	0.33	32.12	0.0001	
2 transitional	163	0.27			* *
3 modern	194	0.11			
<u>Socio-economic status</u>					<u>1 2 3</u>
1 traditional	172	1.81	182.83	0.0001	
2 transitional	163	2.05			*
3 modern	194	2.78			* *
<u>Women and political participation</u>					<u>1 2 3</u>
1 traditional	172	0.61	24.63	0.0001	
2 transitional	163	0.73			*
3 modern	194	0.86			* *
<u>Woman's suitability for politics/social equality</u>					<u>1 2 3</u>
1 traditional	172	0.54	61.18	0.0001	
2 transitional	163	0.65			*
3 modern	194	0.31			* *
<u>Children's rights/forward looking/change agent</u>					<u>1 2 3</u>
1 traditional	172	3.59	33.11	0.0001	
2 transitional	163	4.17			*
3 modern	194	4.58			* *
<u>Internal efficacy/autonomy</u>					<u>1 2 3</u>
1 traditional	166	0.82	0.13	0.8791	
2 transitional	162	0.82			
3 modern	194	0.80			

N = 535.

\*Denotes significant ( $P \leq .05$ ) difference in pairs of means.

Results of Scheffé's test showing differences between groups. The Scheffé method is conservative for pairwise comparisons of means. It requires larger differences between means for significance than most of the other methods (Statistics Guide, 1988, p. B-156).

group. Women from the "traditional" group were more positive on responses that were in support of traditional gender stereotyping and social equality. This group responded less positively on factors related to change agency and women's involvement in politics.

A possible explanation for this result may be attributed to the circumstances of women in the different social settings within the study area. The Khartoum and Omdurman areas exhibit the greatest social impacts of change. Women who operate in the rural areas exhibit greater adherence to traditional norms compared to women who have moved out of their traditional settings.

The differences in attitudes of women from transitional and women from modern families toward traditional gender roles may be associated with the differing impact of various "modernization" processes and changes that have taken place in the environments within which these women live and carry out their day-to-day activities. Smelser (1970) identifies structural differentiation and cultural transformation as the root of the changes that are taking place in various social settings. The Khartoum and Omdurman areas are the most urbanized and have also seen the greatest impacts of education and modernization. Women in these areas have "escaped" the social restrictions of their traditional environments; and are able to engage in other forms of activities beside the traditionally assigned household activities. Activities of women in urban areas include waged employment and various entrepreneurial occupations (Badri, 1990). Most urban women are able to contribute cash income toward family sustenance and are also involved in family decision making.

These women tend to have the resources with which to influence the welfare of their families.

The traditional Sudanese woman on the other hand, has been assigned and conditioned by culture to seek satisfaction from her productive roles at the domestic sphere and so may continue to adhere strictly to the status and protection that these roles confer on her.

As stated by Tiano (1981), traditional customs and laws that exclude women from ownership and control of property are assumed to limit their access to the means of production.

The null hypothesis was therefore rejected.

### Hypothesis 2

The second hypothesis tested states that there are no differences in attitudes toward traditional gender roles and changes occurring in these roles among women from urban high-income, urban low-income, and rural low-income areas.

Analysis of variance results indicate significant differences at the .05 level among the groups. A Scheffé test indicated significant differences between individual groups on the factors related to tradition, gender stereotypes, socio-economic status, women and political participation, social equality and change agency, and internal efficacy or autonomy. The rural low-income group and urban high-income group were similar in the sense of autonomy. Again, on the factor related to women and political participation, no significant differences were noted between the urban low-income and rural low-income groups (Table 9).

Table 9. Summary of the one-way analysis of variance for hypothesis 2

	n	Mean	F	Prob.	Difference
<hr/>					
<u>Group meals/tradition</u>					<u>1 2 3</u>
1 urban-high	185	.0572	34.15	0.0001	
2 urban-low	191	.2914			*
3 rural-low	159	.3522			*
<u>Gender stereotypes</u>					<u>1 2 3</u>
1 urban-high	185	.1054	29.27	0.0001	
2 urban-low	191	.2853			*
3 rural-low	159	.3075			*
<u>Socio-economic status</u>					<u>1 2 3</u>
1 urban-high	185	2.8490	227.34	0.0001	
2 urban-low	191	2.0439			*
3 rural-low	159	1.7960			* *
<u>Women and political participation</u>					<u>1 2 3</u>
1 urban-high	185	0.8594	16.75	0.0001	
2 urban-low	191	0.6858			*
3 rural-low	159	0.6698			*
<u>Woman's suitability for politics/social equality</u>					<u>1 2 3</u>
1 urban-high	185	0.3102	52.43	0.0001	
2 urban-low	191	0.5645			*
3 rural-low	159	0.6136			*
<u>Children's rights/forward looking/change agent</u>					<u>1 2 3</u>
1 urban-high	185	4.4810	12.27	0.0001	
2 urban-low	191	3.8974			*
3 rural-low	159	4.0127			*
<u>Internal efficacy/autonomy</u>					<u>1 2 3</u>
1 urban-high	185	0.8189	3.79	0.0233	
2 urban-low	191	0.7605			
3 rural-low	159	0.8725			*

N = 535.

\*Denotes significant ( $P \leq .05$ ) difference in pairs of means.

Results of Scheffé's test showing differences between groups.

A possible explanation may be that these groups lack the education needed to be able to understand, let alone be involved in political decision making. No differences were noted to exist in the sense of internal efficacy for rural low-income and urban high-income groups. Again as noted by Hevi-Yiboe (1987), women in traditional settings enjoy a traditional power base which the urban low-income women lack.

Differences noted among the groups' attitudes toward gender roles may be linked to traditional influences, differences in socio-economic levels, and also in the resources and opportunities available to women in these groups. Women from the high-income group are usually women with relatively higher sense of autonomy and tend to score higher on responses related to indicators of change (Table 9). Research also indicates that these women usually have higher educational attainments and greater opportunities for employment. The highest number of secondary, university, and post-university graduates in the sample were among the urban high-income group, followed by the urban low-income group (Table 10). The rural low-income group were lowest on educational attainments.

Table 10. Percentages of educational level according to area of residence

	Area of Residence		
	Urban High N = 183	Urban Low N = 190	Rural Low N = 158
No schooling	2.2	21.1	20.3
Elementary	7.1	28.4	48.1
Intermediate	8.2	21.6	12.7
Secondary	39.9	25.8	19.0
University	36.1	2.6	0.0
Post-university	6.6	0.5	0.0

A sense of autonomy or efficacy seen for the rural-low and urban-high income groups could be linked to a greater sense of social security. In urban areas women tend to have a stronger economic base, while rural women tend to have a stronger social support base. The urban-low income women usually are a transitional group that possesses neither strong economic, nor social support base. Comparing the urban-high and urban-low income women, the latter do not have comparable chances for employment, usually due to lack of education or training. However, living in an urban setting, urban-low income women have greater opportunities to engage in activities over and above those related to household maintenances. As indicated by Obbo (1980) women who migrate to the cities do so for economic reasons and also for a sense of autonomy.

Responses according to area of residence indicate low support for traditional roles on the part of the urban high-income group, foremost, followed by the urban low-income group. The rural low-income group appear to be more supportive of traditional gender roles. Women in urban areas generally tend to seek waged employment. Labor force participation for women living in urban areas of Kenya, for example, has seen significant increases (Sebstad, 1992). This may be true in the situation of urban women in several developing countries, particularly in Africa. However, urban women with inadequate educational preparation, and capital, usually find themselves competing with men for employment in the unskilled labor market. Urban women with limited job skills are usually concentrated in lower level jobs. Sebstad (1992) observes further that men are more likely than women to find work in the formal sector. She

noted that in Kenya at the time of her study only 69 percent of all women compared to 82 percent of all men worked in the formal employment sector. Also, 31 percent compared to only 18 percent of all men worked in the informal sector. These findings underscore employment discrimination based on gender and the fact that in most instances women may lack the education and skills needed for employment in the formal sector. This hypothesis was rejected as differences existed among women from the different geographic locations.

### Hypothesis 3

The third hypothesis states that there is no difference in attitudes toward traditional gender roles and changes occurring in these roles among women with different levels of education.

Generally, northern Sudanese women who have undergone secular education showed less positive attitudes toward traditional gender roles, and more positive attitudes toward change than women who have not received secular education (Table 11). Women with higher educational attainments indicated the most positive attitudes toward change. One of the main measures of behavior that is indicative of women's expected traditional role, that of child bearing, was used as a measure. Overall, 455 women in the sample indicated they had some education while 76 indicated no education. Analysis of variance results showed that women with education had a mean of 3.04 children while those with no education had a mean of 4.51 children (Table 12).



Table 11. Attitudes toward traditional gender roles for different levels of mother's education

	n	Mean	SD	F-value	Prob.
<u>Group meals/tradition</u>					
1. No schooling	76	0.38	0.44	10.41	0.0001*
2. Elementary	143	0.32	0.41		
3. Intermediate	76	0.25	0.39		
4. Secondary	152	0.16	0.33		
5. University	71	0.04	0.12		
6. Post-university	13	0.06	0.11		
<u>Gender stereotypes</u>					
1. No schooling	76	0.44	0.38	23.31	0.0001*
2. Elementary	143	0.30	0.31		
3. Intermediate	76	0.27	0.27		
4. Secondary	152	0.14	0.18		
5. University	71	0.06	0.12		
6. Post-university	13	0.03	0.06		
<u>Women and political participation</u>					
1. No schooling	76	0.60	0.42	9.83	0.0001*
2. Elementary	143	0.67	0.40		
3. Intermediate	76	0.65	0.39		
4. Secondary	152	0.84	0.25		
5. University	71	0.88	0.23		
6. Post-university	13	0.87	0.17		
<u>Women's suitability for politics/social equality</u>					
1. No schooling	76	0.67	0.32	24.57	0.0001*
2. Elementary	143	0.59	0.30		
3. Intermediate	76	0.55	0.32		
4. Secondary	152	0.42	0.30		
5. University	71	0.25	0.25		
6. Post-university	13	0.13	0.17		
<u>Children's rights/forward looking/change agent</u>					
1. No schooling	76	3.89	1.53	2.25	0.0479*
2. Elementary	143	3.96	1.36		
3. Intermediate	76	4.16	1.13		
4. Secondary	152	4.25	1.10		
5. University	71	4.37	0.88		
6. Post-university	13	4.54	0.63		

\*p &lt; .05.

Table 11. Continued

	n	Mean	SD	F-value	Prob.
<u>Internal efficacy/autonomy</u>					
1. No schooling	76	0.71	0.45	2.00	0.0776
2. Elementary	143	0.83	0.37		
3. Intermediate	76	0.79	0.39		
4. Secondary	152	0.86	0.33		
5. University	71	0.82	0.38		
6. Post-university	13	0.92	0.28		

\*Denotes significance at the .05 level.

Table 12. One-way analysis procedure for women with and without schooling and number of children

Group	n	Means	F-value	P > F
1 No schooling	76	4.5	54.28	0.0001*
2 Some schooling	455	3.0		

\*Denotes significance at .05 level.

Women in the group who had no children were all women with education, while no women without education had no children (Table 13). Again, according to this study, the number of children born to families tend to decrease as more women receive education. The opposite is true of the number without education (Figure 1). Hypothesis three was therefore rejected.

Table 13. Percent of women with and without education and number of children

Number of children	% Women with education	% Women with no education
0	100	0
1	98.15	1.85
2	94.44	5.56
3	89.51	10.49
4	74.12	25.88
5	78.26	21.74
6	69.23	30.77
7	70.59	29.41
8	57.14	42.86
9	33.33	66.67

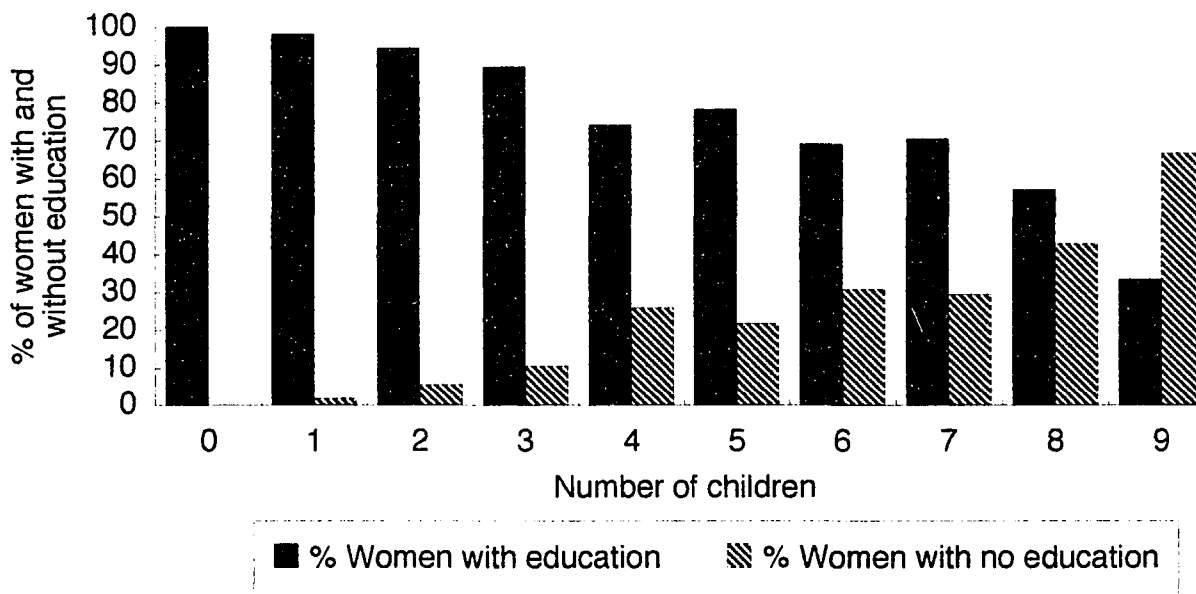


Figure 1. Percent of women with and without education and number of children in family

These results are supported by numerous research findings on the relationship between education and fertility behavior. The longer a woman takes in educating herself for a career, the longer she usually takes to marry, hence a decrease in her years of fertility (Finance and Development, 1988; UNICEF, 1990; Orubuloye, 1981). A 1988 Finance and Development report stated that higher education levels and greater social awareness of the need for family reproductive planning help reduce the number of children born to a family. Numerous studies have also indicated the important role education plays in a woman's reproductive potential. The longer a woman takes to pursue higher education the more she improves her chances of employment within the formal sector. Women with full-time employment outside the home are more likely to have fewer children. Also, women with higher education levels and full-time employment in the formal sector would require more income toward child care provision; this also leads to a decrease in the number of children born to a family. Women with education may also be more aware of "the need for contraceptives and the choices available to them."

A number of survey and census analyses have also detected a direct relationship between a child's chances of survival and the mother's level of education. Data from the 1960 census of Ghana, for example, reveal that the rate of child mortality is almost twice as high for mothers with no education as for mothers with an elementary education, and nearly four times higher for mothers with no education as for those with secondary schooling. The patterns are much the same for children in urban and rural settings (Chinery-Hesse et al., 1989, p.43).

A study of Yoruba women in Nigeria undertaken as part of the 1973 Changing African Family Project Survey reviewed differences in rural-urban access to modern health services and concluded that the single most important influence in child survival is the level of mother's education. Although the father's education was also found to be significant, it was not as important in explaining differences in child mortality rates. Family income was not as important as mother's education (Chinery-Hesse et al., 1989). Washi (1992) noted the importance of mother's education to Sudanese children's nutritional status, living environment, and school performance. Children whose mothers were educated were healthier and had higher academic achievements.

Apart from the influence of education on fertility behavior and family welfare, education tends to influence perceptions about other areas that impact upon women's lives and activities. This study clearly shows that differences in responses related to factors indicative of gender roles vary according to level of education (Table 13). This statement by no means discounts individual socialization and environmental experiences.

Orubuloye (1981), writing of the Nigerian educational experience, informs us that:

Although primary school education may socialize a person in a different way than did traditional society, many of the advantages of modernization and westernization were still not properly assimilated at this level. Hence most of the traditional values still predominate" (p. 28).

Orubuloye further states that the lifestyles of women who received only primary school education are not different from women who have not had any schooling. This hypothesis was rejected as differences existed among women with different levels of education.

## **CHAPTER V - SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

### **Summary**

The purposes of this study were to determine if Northern Sudanese women with different family backgrounds, geographic locations, and educational backgrounds differed in their attitudes toward traditional gender roles and changes occurring in these roles. Main objectives for the study were to determine if

1. differences existed in attitudes toward traditional gender roles and changes occurring in those roles among women from traditional, transitional, or modern family backgrounds;
2. women from urban high-income, urban low-income, and rural low-income locations differed in their attitudes toward traditional gender roles and changes occurring in these roles;
3. women with different educational backgrounds differed in their attitudes toward traditional gender roles and changes occurring in these roles.

### **Sample Selection**

The purposive sample for this study consisted of 600 women including 200 from each of the following areas: urban high-income areas, 84.5% of whom were categorized as "modern" in terms of family background; urban low-income areas, 59.5% of whom were categorized as "transitional" in terms of family background; and rural low-income areas, 54.6% of whom were categorized as "traditional" in terms of family background. The sample included women aged 12 through 35 years, who were not widowed or

divorced, and who had lived in the geographic area for at least five years. Women in polygamous relationships were excluded from the sample.

### **Instrument Development**

Data for the study were collected using a five-part interview questionnaire to collect information on demographic variables; housing and living conditions; parental roles; cultural, attitudinal and belief stereotypes; parental modernity towards child rearing and education; and description of the family. The data collection instrument was reviewed by other researchers involved in research and documentation of women's activities for content validity and usability. The instrument (Appendix C) was pilot tested with a representative sample. Necessary modifications were made in the instrument before it was used with the study sample.

### **Data Collection Procedures**

Interviews using the interview schedule were administered by senior students in the Schools of Psychology and Pre-School Education, Organizational Management, and Family Sciences at the Ahfad University. Prior to the field interviews, a series of training sessions were held for researchers and students under the auspices of the Documentation Unit for Women's Studies.

Students paired up to interview individual women, especially in the rural low-income areas; according to researchers who supervised the data collection, this was considered a more "culturally-correct" approach. Again, interviewing in pairs ensured that questions and responses were



clearly interpreted and accurately coded. Periodic meetings were held during the data collection phase at which progress on the data collection was reported. Any difficulties experienced in the process were presented by the students. The researchers also periodically reviewed the students' records and offered suggestions where necessary. Any errors or omissions that were detected in the responses were ratified. Revisits to women respondents were undertaken when necessary. Each interview lasted about two hours. When all the data were collected, the completed interview instruments were sent to Iowa State University for computer entry and subsequent analysis.

### **Data Analysis**

Six hundred interviews were completed. Of the completed interview instruments 535 had usable data. The remaining instruments could not be included in the analysis because of incomplete data. Descriptive statistics, including frequencies, percentages, and means, were computed for the 229 variables for the entire sample. The factor analysis procedure clustered these variables into 26 factors related to indicators of tradition and change. Seven factors with alpha reliabilities ranging from 0.7 to 0.9 were retained for further analysis.

### **Findings**

Findings indicated that there were differences in attitudes toward traditional gender roles and changes occurring in these roles among women from traditional, transitional, or modern family backgrounds and from different geographic locations. Women from traditional and transitional

family backgrounds and also from rural low-income and urban low-income areas were more positive in their attitudes toward traditional gender roles as compared to women from modern family backgrounds who resided in urban high-income areas. Analysis of variance results indicated significant differences at the .05 level on all factors except on the measure of internal efficacy and/or sense of autonomy. Generally, women from the modern group showed more positive attitudes on factors related to socio-economic status, women's political participation, suitability for politics, and change agency; this group showed the least positive attitude in support of gender stereotypes and tradition. Women from the urban low-income group indicated responses similar to those of the transitional group. Women from the traditional group were more positive on responses in support of traditional gender stereotyping and social equality. This group responded less positively on factors related to change agency, and women's involvement in politics.

There were differences in attitudes toward traditional gender roles and changes occurring in these roles among women from urban high-income, urban low-income and rural low-income areas. Analysis of variance results indicate significant differences at the .05 level among the groups. Significant differences were noted to exist on all six factors, namely, tradition, gender stereotypes, socio-economic status, social equality and change agency. A Scheffé test showed a notable difference among the groups on the factor related to internal efficacy/autonomy. The rural low-income group and urban high-income group were similar in the sense of autonomy. On the factor related to women and political

participation, no significant differences were noted between the urban low-income and rural low-income groups.

There were differences in attitudes of women with different educational backgrounds toward traditional gender roles and changes occurring in these roles, northern Sudanese women who have undergone secular education showed less positive attitudes toward traditional gender roles, and more positive attitudes toward change than women who have not received secular education. Women with higher educational attainments indicated the most positive attitudes toward change. One of the main measures of behavior that is indicative of women's expected traditional role, that of child bearing was used as a measure. Overall, 455 women in the sample indicated they had some education while 76 indicated no education. Analysis of variance results showed that women with education had a mean of 3.04 children while those with no education had a mean of 4.51 children. Women in the group who had no children were all women with education. No women who had no education were found who had no children. According to this study, the number of children born to women tend to decrease as more women receive education; the opposite is true of the number of women without education.

### Conclusions

Results of the study led to the conclusion that 1) Sudanese women's attitudes toward traditional gender roles and change were related to and, perhaps, influenced by their family background. Generally, women from modern family backgrounds who resided predominantly in the urban high-

income areas tended to be less positive in their attitudes toward traditional gender roles than those from transitional, and more so, from traditional family backgrounds. Also, those from urban high-income and urban low-income areas tended to be less stereotypical, had higher economic means, and had greater sense of equality and the need for women's political participation, than those from the rural low-income areas. Education also appeared to make a difference in the attitudes that women had toward their traditional roles and changes occurring in these roles. Women with education indicated the most positive attitudes toward changes occurring in traditional gender roles.

The importance of these results provide some insights about attitudes toward traditional gender roles and change; they also have a potential for providing the basis upon which educational programs that are aimed at assisting women in traditional societies, specifically northern Sudan, could be based.

#### **Recommendations for Educational Programs**

It is evident from findings of this study that some categories of women in northern Sudan may be in better change-agency roles than others. Women in the urban setting who have better opportunities for improving their welfare may be more supportive of change than those in the rural settings who are tied down to traditional practices.

For change to occur in women's conditions and in the Sudanese society, it is important that all individuals be mobilized and equipped with the necessary resources which will enable them to cope and manage

change in their environments. One such resource is the provision of more formal and nonformal educational opportunities for women in northern Sudan. Education has been recognized as a major force in promoting changes that can lead to behavior modifications at the individual level and also in the family setting (Orubuloye, 1981). Education is also instrumental in initiating and bringing about broader social change. Both formal and nonformal education can help bring about such changes. Findings of this research suggest directions for the types of education and training opportunities that could be offered for the benefit of the kinds of populations that were studied in this research.

#### Formal education

Sudan is a leader in women's education on the African continent. In spite of strict traditional and gender ascriptions, Sudanese women now have opportunities to receive formal training in various institutions, at different levels, and in different settings, both locally and internationally. For educational systems to be able to facilitate changes toward improvements in the quality of life for families and especially women, and for individuals to be able to contribute towards national productivity, a detailed analysis of educational processes and practices in individual countries would be important.

The school curricula in several developing countries, including the Sudan, have continued to promote subject area concentrations that are discriminatory against females. Doleib (1987) described discriminatory aspects of the Sudanese elementary school curriculum that encouraged

males to go into the sciences while channeling girls towards subject areas that are believed to contribute towards enhancement of home-making and nurturance roles. This phenomenon tends to reinforce traditional roles for girls and young women, and sometimes provides no incentives or motivation for girls to move into more challenging professional areas. It would be important to have more female educators at all levels of education, especially at the tertiary levels, for example, at the universities and technical institutes. These professionals would serve as role models and motivate young Sudanese females to aspire for higher educational attainments and diversification in areas of training. The extent to which individual life style changes occur would depend to a greater extent on the level of education attained; and also the kinds of work-related social experiences that are encountered. Both formal and nonformal education contribute to bringing about social change.

#### Nonformal education

Extension education programs should aim at reaching all sectors of the population. Cultural sensitivity should be part of the training for extension education personnel who would be in change agency roles in various social and cultural settings in the Sudan.

For rural populations to be able to make changes in their living conditions, it would be important for them to understand and interact with policies that often impact on their activities and welfare. Extension education should assist rural nonliterate, as well as literate populations process information related to national policy issues.

Educational outreach programs should take participatory planning and learning approaches that would engage program participants in critical thinking approaches toward dealing with the day-to-day situations that are encountered in the rural settings. Environmental education and management of resources should be an important component of programs that are aimed towards improving the quality of life for rural populations.

Location-specific education aimed at capacity building is important; because it would have the potential of equipping women in the rural areas, who usually have fewer years of formal education, with skills to engage in other profitable employment activities besides domestic work. Programs should be designed against the background of women's workloads and time constraints. Extension personnel should be trained and equipped with skills to do research and needs assessment. Results of these activities would enable planning towards existing and foreseeable needs of families. These activities would also provide information towards developing appropriate technologies that would ease the drudgery in women's day-to-day activities, and also lead to improvements in productivity, living conditions, and quality of life.

In all attempts to provide educational opportunities, effective communication and mobilization strategies should be employed so all sectors of the population are reached and invited for program participation. Also as noted by Schramm (1967), once ideas of change have been introduced, it becomes almost imperative to teach new skills related to women's activities. This would sustain interest and also raise aspirations for program participants. Effective dissemination practices and

grass roots approaches to program development and strategies for change are necessary. Participatory approaches involving all categories of women involved would ensure greater representation, participation, and also sustained support for educational programs. As noted by Greene (1985), one of the reasons for lack of program participation is women's lack of time to participate in development-oriented programs. Thus, women should be a part of the planning process. Ongoing education and evaluation of performance related to new skills and other technologies will establish confidence and sustain interest.

In planning for social change, it should be remembered that it is the individual, not the system, that will implement the planned change. Thus, women who have operated in traditional settings for most of their lives would also, perhaps require some leadership training. Above all, programs aimed for families should include also the husband and, where necessary, children, because programs are bound to interact with existing family dynamics.

#### **Recommendations for Future Research**

This research has provided some insights into attitudes that women in the study area have toward traditional roles and changes occurring in their roles. However, in order to determine the reasons related to some of the emerging trends or lack of change, in roles, perceptions, and attitudes, a follow-up qualitative research with open-ended questionnaires, and if possible, focus group interviews is suggested. This might provide meanings behind some of the "yes" and "no" responses obtained for



this study. Open-ended questionnaires and/or unstructured interviews might provide information that could contribute towards effective educational programming for families.

Again, due to the usefulness and practical educational applicability of information yielded by these kinds of research, it will be beneficial for such studies to be conducted in other locations in the Sudan. In conclusion, since changing roles of women have implications for other family members, future research should, if possible study the family as a unit to get a more holistic picture as to how change would lead to improvements in the living conditions and welfare of all members.

## REFERENCES

- Afshar, H. (Ed.). (1985). Women, work, and ideology in the Third World. New York: Tavistock Publications.
- Agarwal, B., Bare, T., Henriques, M. L., Mathews, L., Ariffin, J., Ghai, D., Jolly, R., McAskie, C., & Stewart, F. (1990). Engendering adjustment for the 1990s: Report of a Commonwealth expert group on women and structural adjustment. London: Pall Mall.
- Ali, M. A. (1988). Demographic aspects of educational planning in the Sudan. In A. A. Saghayroun et al. (Eds.), Proceedings of the Third National Population Conference Khartoum. Chapel Hill: OQEH.
- Amsden, A. (1980). The economics of women and work. Hammondsworth: Penguin.
- Anyang' Nyong'o, P. (1990). Urbanization in Eastern and Southern Africa: Economic and social trends. Cited in UNICEF (1991). Challenges for children and women in the 1990s: Eastern and Southern Africa in profile. Nairobi UNICEF Country Office.
- Araujo, F. P. (1981). Social perspectives on agricultural research and development in the Southern Kordofan, Sudan: Systems of agricultural production among the Nuba. Western Sudan Agricultural Research Project Publication, Agricultural Research Corporation No. 11.
- Babiker, I. B. & Ahmed, M. A. R. (1988). Labour supply for cotton picking in the Blue Nile agricultural schemes of the Sudan. Agricultural Administration and Extension, 28, 3.
- Badri, A. El Sadik. (1983). A profile on women in Sudan. Omdurman: Ahfad University.
- Badri, B. Y. (1990). The family system, women status and development. Seminar paper. Ahfad University for Women: Women's Studies Series.
- Badri, B. & Badri, A. (Eds.). (1994). Rural village leaders: A training manual (in Arabic). Omdurman: Babiker Bedri Scientific Association for Women's Studies.
- Beneria, L. (1982). Women and development: The sexual division of labor in rural societies. New York: Praeger.
- Berger, M. (1989). An introduction. In M. Berger, & M. Buvinic (Eds.), Women's Ventures. Boulder: Kumarian Press.

- Blake, M. & Moonstan, C. (1981). Women and transnational corporations (The Electronics Industry) Thailand, Honolulu, Working paper of East-West Culture Learning Institute.
- Bookman, A. & Morgan S. (1988). Women and the politics of empowerment. Philadelphia: Temple University Press.
- Boserup, E. (1970). Woman's role in economic development. London: Allen & UNWIN.
- Boulding, E. (1981). Integration into what?: Reflections on development planning for women. In R. Dauber, & M. Cain (Eds.), Women and technological change in developing countries. Boulder, CO: West-view.
- Bruce, J. & Dwyer, D. (1988). A home divided: Women and income in the Third World. Stanford: Stanford University Press.
- Brydon, L. & Chant, S. (1989). Women in the Third World: Gender issues in rural and urban areas. New Jersey: Rutgers University Press.
- Burstein, P. (1979). Equal employment opportunity legislation and the income of women and nonwhites. American Sociological Review, 44, 367-391.
- Burdett, H. (1988). Toward the 21st century--A continent in crisis: Building a future for Africa in the 21st century. A special report by the Population Institute to the 101st Congress. Washington: Population Institute.
- Bureau of the Census. (1984). Money, income, and poverty--Status of families and persons in the United States: 1983. (Advance data from the March 1983 Current Population Survey). Current Population Reports Series. Washington, D. C.: U. S. Government Printing Office.
- Callaway, B. & Creevey, L. (1994). The heritage of Islam, women, religion, and politics in West Africa. Boulder: Lynne Reinner Publishers.
- Carter, G. M. (1977). Introduction. In Pellow Women in Accra: Options for autonomy. Michigan: Reference Publications, Inc.
- Chambers, R. (1983). Rural development: Putting the last first. London: Longman.
- Charlton, S. E., Everett, J., & Staudt, K. (Eds.). (1989). Women, the state and development. New York: State University of New York Press.

- Clark, M. (1984). Women-headed households and poverty: Insights from Kenya. Nottingham: Signs.
- Clark, M. (1990). Mainstreaming women in enterprise development. In ARIES, Working Paper No. 5. Washington, D. C.: Nathan Associates Inc.
- Cole, J. (1986). The politics of reform and repression: 1976-1986. Johannesburg: Ravan Press.
- Cornia, G. A., Jolly, R., and Stewart, F. (Eds.). (1987). Adjustment with a human face. Oxford: Clarendon Press.
- Date-Bah, E., Stevens, Y., & Ventura-Dias, V. (1983). Technological change and the condition of rural women. Geneva: ILO (draft).
- Davis, K., & Blake, J. (1956). Social structure and fertility: An analytical framework. Economic Development and Cultural Change, 4.
- Department of Statistics. (1979). Second population census, 1973. Khartoum: Department of Statistics.
- Department of Statistics. (1982). The Sudan 1979 fertility survey. Khartoum: Department of Statistics.
- Dey, J. (1975). Role of women in Third World countries. Unpublished master's thesis. Berkshire: University of Reading.
- Doleib, T. E. S. (1987). Some aspects of discrimination between boys and girls in Sudanese elementary school curriculum. The Ahfad Journal, 4(2), 12.
- Downing, J. (1990). Gender and the growth and dynamics of microenterprises. Working Paper No. 5. Washington, D. C.: GEMINI.
- Elbakri, Z. B. & Kheir, M. A. (1989). Sudanese women in history and historiography: A proposed strategy for curriculum change. Paper presented to the workshop on Women's Studies in Sudan. National Council for Research/Sudan Family Planning Association.
- El Nagaar, S. & Salih, A. (1989). Women in production: An attempt at curriculum development. Unpublished paper presented at the workshop of Women's Studies in Sudan.
- El Sayed, M. (1987). Women in Sudanese agriculture. In S. Kenyon (Ed.), Sudanese Woman. Khartoum: University of Khartoum Graduate College Publications. No. 19.

- Elson, D. & Pearson, R. (1981). Nimble fingers make cheap worker: An analysis of women's employment in Third World export manufacturing. Feminist Review, 7.
- Engels, F. (1972). The origin of the family, private property, and the state. London: Lawrence and Wishart.
- Eltyeb, N. (1984). Working women in Sudan. Khartoum: Ministry of Labour.
- Etigani, E. (1990). The socio-economic aspects of child health in Gezira, Sudan.
- Favour, M. A. (June, 1988). Fertility policies in the Arab world. Population bulletin of ESCWA. No. 32.
- Ferguson, A. (1986). Kibwezi integrated rural development. Nairobi: AMREF.
- Finance and Development. (1988). Women and development: Education and fertility. Finance and Development, September 1988.
- Gerhart, J. D. (1989). Beyond survival: Expanding income earning opportunities for women in developing countries. World Development, 17(7).
- Germain, A. (1975). Women's role in agricultural development. New York: Agricultural Development Council (draft).
- Germain, A. (1976). Women's role in Bangladesh development: A program assessment. Dacca: Ford Foundation.
- Giddens, A. (1977). Studies in social and political theory. New York: Hutchinsonson.
- Gilligan, C. (1982). In a different voice. Cambridge: Harvard University Press.
- Greene, P. A. (1985). Approaches in rural women's programs in three African counties--Kenya, Nigeria, Sierra Leone: Implications for training field development workers. Rome: FAO Report.
- Grossman, R. (1979). Women's place in the integrated circuit. Southeast Asia Chronicle, 66. (Joint issue with Pacific Research, 9, 5-6).

- Grotberg, E. H. & Badri, G. (1989). Shifting from traditional to modern child rearing practices in the Sudan. Paper presented at the 1989 meeting of the International Council of Psychologists, June 3-6, 1989, Halifax, Canada. To appear in: Alice Honeg (ed.) Cross-Cultural Aspects of Parenting, Early Childhood Development and Care.
- Grown, C. A. & Sebstad, J. (1989). Introduction: Toward a wider perspective on women's employment. World Development, 17(7).
- Hammond, A. (1977). The family structure in Islam. Brentwood, MD: International Graphics Printing Service.
- Herz, B. (1988). Women in development. In A. M. Findlay (Ed.), Population and Development in the Third World. New York: Methuen.
- Hevi-Yiboe, L. A. (1987). Perceived competencies and attitudes of Sudanese undergraduate students (Doctoral dissertation, Iowa State University, 1987). Dissertation Abstracts International.
- Holter, H. (1971). Sex roles and social change. Acta Sociologica, 14.
- House, W. J. (1988). The status of women in the Sudan. Journal of Modern African Studies, 26, 2.
- Hyman, E. L. (1990). Integrating women and other excluded groups into mainstream enterprise promotion programs. In ARIES, Mainstreaming women in enterprise development. Washington, D. C.: Nathan Associates Inc.
- International Labour Office. (1989). Still so far to go: Child labour in the world today. Geneva: International Labour Office.
- International Labour Organization. (1986). Statistics and indicators on women in Africa. New York: United Nations.
- Jacobson, L. J. (1993). Closing the gender gap in development. In State of the World. New York: W. W. Norton and Company.
- Jiggins, J. (1989). How poor women earn income in Sub-Saharan Africa and what works against them. World Development, 17(7).
- Johnstone, E. (1975). Women in economic life: Rights and opportunities. In Women's roles and education: Changing traditions in population planning. Washington, D. C.: American Home Economics Association.
- Kachigan, S. K. (1982). Multivariate statistical analysis: A conceptual introduction. New York: Radius Press.

- Kenyon, S. (Ed.). (1987). The Sudanese women. Graduate College Publications No. 19. Khartoum: University of Khartoum.
- Kessler-Harris, A. (1976). Women, work and social change. In B. Carroll (Ed.), Liberating women's history. Urbana: University of Illinois Press.
- Khider, M. (1981). Women's work participation patterns in Sudanese agriculture. Ph.D. dissertation. Khartoum: Khartoum University.
- King, A. G. (1978). Labor market racial discrimination against Black women. The Review of Black Political Economy, 8(4).
- Kisekka, M. N. (1981). Women and development in Nigeria: A bibliography. Addis Ababa: United Nations, Economic Commission for Africa.
- Koblinsky, M. A., Timyan, J., & Gay, J. (1992). Mothers and children. Bulletin on infant feeding and maternal nutrition, 10, 3.
- Lewis, S., & Russell, K. (1989). Mali: Women in private enterprise. Report prepared for USAID/Mali and PPC/WID by Ernst & Young. Sponsored by Private Enterprise Development Support Project II, Bureau for Private Enterprise. Washington, D. C.: U. S. Agency for International Development.
- Lim, L. (1978). Women workers in multinational corporations in developing countries - The case of the electronics industry in Malaysia and Singapore. Women's Studies Occasional Paper No. 9. University of Michigan.
- Lipton, M. (1977). Urban bias in World Development. In People centered development (1984) David C. K. et al. (eds.). West Hartford: Kumarian Press.
- Mackintosh, M. (1981). Gender and economics: The sexual division of labour and the subordination of women. In K. Young, C. Wolkowitz, & R. McCullagh (Eds.), Of marriage and the market. Whitestable, Kent: CSE Books.
- Marx, K. (1968). The 18th Brumaire of Louis Bonaparte. In K. Marx, & F. Engels (Eds.), Marx and Engels Selected Works. London: Lawrence and Wishart.
- Mazumda, V. (1978). Role of rural women in development. Report of an International Seminar. New Delhi: Allied Publishers Private Ltd.
- Mednick, M. T. S. & Weissman, H. J. (1975). The psychology of women: Selected topics. Annual Review of Psychology, 26.

- Mencher, J. P. (1988). Women's work and poverty: Women's contribution to household maintenance in South India. In D. Dwyer & J. Bruce (Eds.), A home divided: Women and income in the Third World. Stanford: Stanford University Press.
- Mernissi, F. (1985). Women and Islam: An historical and theological enquiry. Oxford: Basil Blackwell.
- Mohamed Kheir, A. (1987). Women and politics in medieval Sudanese history. In Kenyon, S. (ed.) Sudanese Women. Khartoum: University of Khartoum Graduate College Publications.
- Mohammed, M. Y. & Alla, M. H. (1985). Enrollment of women in higher education in Sudan. The Ahfad Journal, 2(2), 3-8.
- Moore, W. (1965). The impact of industry. New Jersey: Prentice-Hall.
- Mukuria, A. G. (1989). Women and health needs assessment. Report prepared for the Centre for African Family Studies. Kenya: Services for Health Care Development.
- Mustafa, M. (1985). Women, work and development: A view from Sudan. Ahfad Journal, 2(1).
- Nelson, H. D. (1983). Sudan: A country study. Area handbook series. Washington, D. C.: American University.
- Nickols, S. Y. & Engberg, L. E. (1986). African women's income generation: Assumptions and realities. Canadian Home Economics Journal, 3b(3).
- Oakley, A. (1974). The sociology of housework. London: Martin Robertson.
- Obbo, C. (1980). African women: Their struggle for economic independence. London: Zed Press.
- Ogburn, W. F. (1922). Social change with respect to culture and original nature. New York: B. W. Huebsch, Inc.
- Ogburn, W. F., Allen, F. R., Miller, D. C., & Nimkoff, M. F. (1957). Technology and social change. New York: Appleton-Century-Crofts, Inc.
- Olin, U. (1977). Integration of women in development: Programme guidelines. New York: United Nations Development Programme.



- Orubuloye, I. O. (1981). Education and socio-demographic change in Nigeria: The Western Nigerian experience. In Were, S. (ed.). Women, education and modernization of the family in West Africa. Canberra: The Australian National University.
- Palmer, I. (1975a). Women in rural development. Geneva: ILO (mimeo).
- Palmer, I. (1975b). The new rice in the Philippines, Studies on the 'Green Revolution', Report No. 10. Geneva: UNRISD.
- Palmer, I. (1977). Rural women and the basic needs approach to development. International Labour Office, ILO/DANIDA/80/INT/35.
- Palmer, I. (1978). Women and green revolutions. Paper presented to the Conference on Continuing Subordination of Women and the Development Process. Sussex: Institute of Development Studies (mimeo).
- Pankhurst, H. (1992). Gender, development and identity: An Ethiopian study. New Jersey: Zed Books.
- Pellow, D. (1977). Women in Accra: Options for autonomy. Michigan: Reference Publications Inc.
- Phillips, A., & Taylor, B. (1980). Sex and skill. Notes toward a feminist economics. Feminist Review, 6.
- Pietila, H., & Vickers. (1990). Making women matter: The role of the United Nations. Atlantic Highlands, NJ: Zed Books.
- Pollard, N. (1986). The Sudan's Gezira Scheme: A study in failure. In E Goldsmith & N. J. Hildyard (Ed.) The social and environmental effects of dams (Volume 2: case studies). Camelford, Cornwall, U.K.: Wadebridge Ecological Centre.
- Population Reference Bureau Inc. (1991). World population data sheet. Washington, D.C.: PRB.
- Potts, M. (1986). Can family planning reduce maternal mortality. Journal of Ob/Gyn., Eastern and Central Africa, 5: 29.
- Radin, P. (1920). The autobiography of a Winnebago Indian. University of California Publications in American Archeology and Ethnology, 16(7).
- Republic of the Sudan. (1979). The Sudan fertility survey. Principal Report. Vol. 1. Khartoum: Ministry of National Planning, Department of Statistics.

- Rodgers, H. (1986). The feminization of poverty: Some preliminary empirical explorations. Western Sociological Review, 15(1).
- Rogers, B. (1980). The domestication of women: Discrimination in developing societies. New York.
- Rogers, E. M. (1969). Modernization among peasants: The impact of communication. New York: Holt, Rinehart, & Winston.
- Ryan, B. F. (1969). Social and cultural change. New York: The Ronald Press Company.
- Rytina, N. F. (1982, April). Tenure as a factor in the male-female earnings gap. Monthly Labor Review, 32-34.
- Saadawi, N. E. (1980). The hidden face of Eve: Women in the Arab World. London: Zed Press.
- Saadawi, N. E. (1988). The political challenges facing Arab women at the end of the 20th century. In N. Toubia (Ed.), Women of the Arab world. London: Zed Books Ltd.
- Saito, K. A. & Weidemann. (1990). Agricultural extension for women farmers in Africa. Operational guidelines on how to provide cost-effective agricultural extension services to women farmers in Sub-Saharan Africa. Washington, D. C.: The World Bank.
- Sandhu, R. & Sandler, J. (1986). The technology and tools book: A guide to technologies women are using worldwide. International Women's Tribune Center: I. T. Publications.
- Sayed, KI. M. (1981). Women in Sudanese agriculture. In Kenyon, S. (Ed.), Sudanese Women. Khartoum: University of Khartoum Graduate College Publications. No. 19.
- Schaefer, E. S. & Edgerton, M. (1985). Parent and child correlates of parental modernity. In Irving E. Sigel (ed.), Parental belief systems: The psychological consequences for children. Hillsdale, IL: Lawrence Erlbaum Associates.
- Schramm, W. (1967). Communication and change. In Lerner, D. & Schramm, W. (Eds.). Communication and change in developing countries. Honolulu: East-West Center Press.
- Schultz, P. T. (1990). Women's changing participation in the labor force: A world perspective. Economic Development and Cultural Change, 38(3).

- Seager, J. (1986). Women in the world: An international atlas. London: Pluto.
- Sebstad, J. (1992). Gender and employment in Kenya: Analysis of the 1988 rural and the 1986 urban force surveys. Volume I. Republic of Kenya, Nairobi: Ministry of Planning and National Development.
- SEPHA. (1991). Situation Report No. 1. New York: Special Emergency Programme for the Horn of Africa.
- Smelser, N. (1970). Mechanisms of change and adjustment to change. In Hoselitz and Moore (Eds.), Industrialization and Society. The Hague: Mouton.
- SPSS, Inc. (1990). SPSS reference guide. Chicago: SPSS, Inc.
- Staudt, K. (1987). Uncaptured or unmotivated? Women and the food crisis in Africa. Rural Sociology, Spring.
- Tiano, S. (1981). The separation of women's remunerated work and household work: Theoretical perspectives on women. Working Paper No. 2. Anabor: Office of Women in International Development.
- Tinker, I. (1979). New technologies for food chain activities: The imperative equity for women. Paper prepared for the Office of Woman in Development (PPC/WID).
- Trieman, D. J. & Hartman, H. I. (Eds.). (1981). Women, work, and wages: Equal pay for jobs of equal value. Washington, D.C.: National Academy Press.
- Tully, D. (1988). Culture and context in Sudan: The process of market incorporation in Dar Masalit. New York: State University of New York Press.
- Umbadda, S., & Abdul-Jalil, M. A. (1985). Rural women in small-scale irrigated agriculture: The case of Wadi Kutum (Sudan). Afrika-Spectrum, 20(3).
- UNDP. (1985). Human Development Report. Oxford: OUP.
- UNECA/ATRCW. (1975). Women of Africa: Today and tomorrow. Addis Ababa: United Nations Economic Commission for Africa.
- UNICEF. (1989). Situation analysis of children and women in Kenya: The well being of children, Section 4. Nairobi: UNICEF Country Office.

- UNICEF. (1991). Challenges for children and women in the 1990's: Eastern and Southern Africa in profile. Nairobi: UNICEF Country Office.
- United Nations. (1986). Statistics and indicators on women in Africa. Department of International Economic and Social Affairs. New York: United Nations.
- United Nations Research Institute for Social Development. (1977). Strategy and programme proposals. Geneva: WP2/Rev. 1/Nov.
- United States Agency for International Development. (1990). Women in development highlights. Washington, D. C.: U. S. Agency for International Development.
- Vellenga. (1970). Technology and rural women in Ghana. In I. Ahmed (Ed.), Technology and rural women: Conceptual and empirical issues. London: George Allen & UNWIN.
- Vletter, F. de. (1978). The rural homestead as an economic unit: A case study of the Northern Rural Development Area. Mbanbane: University of Swaziland.
- Wallace, W. (1985). The true rural health workers. UNICEF- News. No. 122.
- Washi, S. A. R. (1992). The interrelationships among nutritional status, living environment, and school performance of first through third grade primary school children living in low socioeconomic areas in Khartoum, Sudan. Ph. D. dissertation. Ames: Iowa State University.
- Weidemann, W., & Graig, L. S. (1990). General propositions based on the report on female entrepreneurship in Jordan. In ARIES, Mainstreaming women in Enterprise Development. Washington, D. C.: Nathan Associates, Inc.
- White, G. F., Bradley, D. J., & White, A. U. (1972). Drawers of water: Domestic water use in East Africa. Chicago: University of Chicago Press.
- Whitehead, A. (1985). Conceptual framework for the analysis of the effects of technological change on women. Geneva: ILO.
- Woo, Lilian C. (1991). Women in change: The psychological development of American women. Durham: Carolina Academic Press.

World Bank. (1990a). Enhancing the economic role of women in development. Presentation to the 39th meeting of the Development Committee, Washington, D. C. No. 26.

World Bank. (1990b). World development report: World development indicators. New York: Oxford University Press.

Young, K., Wolkowitz, C.; & McCullagh, R. (1981). Of marriage and the market. London: CSE Books.

Zeidenstein, S. (1975). Socio-economic implications of HYV rice production on rural women in Bangladesh (Dacca, mimeo).

### ACKNOWLEDGEMENTS

I would like to acknowledge my major professors, Dr. Sally Williams and Dr. Donna Cowan for their unwavering support and professional mentoring. Thank you both for your supervision and attention that you have given my work. I am greatly indebted to individual members of my graduate committee, Dr. Eric Abbott, Dr. Judy Brun, Dr. John Tait, and Dr. Robert Strahan. I thank you all for advise, interest, constructive comments, and critiques that have helped in the organization and development of this dissertation.

Dr. Mack Shelley and Mrs. Kathy Shelley of the Statistical Laboratory, Iowa State University, deserve special recognition for the guidance and assistance they provided to enable me to work with a complex data set. Mac and Kathy, I was lucky to have a husband and wife team on my side. Thank you.

My sincere gratitude goes to Dr. Amna Badri and Edith Grotberg of Ahfad University and all students who were involved in collecting data used for this study. I also thank the College of Family and Consumer Sciences, especially Dr. Donna Cowan, for making the data set available for this research. Special thanks to Ann Russey who worked tirelessly to code the large data set.

Without the necessary financial support, my ambition to undertake a Ph.D. program would not have been realized. I extend sincere thanks to the American Home Economics Association and P. E. O. for their generous support.

My family and I have enjoyed tremendous support from people who have shown and continue to show interest in our welfare. May God return to you abundantly the love and happiness you have shared with us. I have established personal friendships where I least expected. Friendships are about caring. My special thanks go to Susan Lund who has tirelessly and generously provided typing assistance. Sue, may God continue to bless you for your patience, dedication, and kindness. Dr. Lulu Rodriguez, your sense of humor has been therapeutic--thanks for your support.

I would also like to thank my friends and family members whose prayers, encouragement, and support have helped sustain me--there are so many of you. May God bless you all. Special thanks to my husband, Mike, for challenging me enough to want to pursue this educational endeavor. I really appreciated the efforts you made to assist me in collecting data from different UN offices in Nairobi. God bless you.

I thank God for blessing me with a caring family. My wonderful children, Dennis, Ernest, Michelle, and Michael, have been a source of solace and support at all times. My beloved, I trusted and depended on you--may God continue to deepen your wisdom and bless you always.

Last, but not least, I would like to thank my Mom and dearest friend. Mamma, you have been a great source of inspiration. Your encouragement and the values you shared with me have helped me to persist and weather the challenges of this life. This accomplishment is for both of us; and I know you are very happy, even though you are not present physically to share your joy in your usual manner. This work is for you. I love you.

Finally, I thank my God, my greatest companion, for His blessings and for being there to lead, support, and protect me at all times.



**APPENDIX A – HUMAN SUBJECTS APPROVAL FORM**

**INFORMATION ON THE USE OF HUMAN SUBJECTS IN RESEARCH  
IOWA STATE UNIVERSITY**

(Please follow the accompanying instructions for completing this form.)

1. Title of project (please type): Critical Aspects of Women's Status Predictive of Fertility Rates in Sudan

2. I agree to provide the proper surveillance of this project to insure that the rights and welfare of the human subjects are properly protected. Additions to or changes in procedures affecting the subjects after the project has been approved will be submitted to the committee for review.

Donna L. Cowan 8/9/89 Donna L. Cowan  
Type Name of Principal Investigator Date Signature of Principal Investigator

CECS, 122 MacKay 294-0859  
Campus Address Campus Telephone

3. Signatures of others (if any). Date Relationship to Principal Investigator

4. ATTACH an additional page(s) (A) describing your proposed research and (B) the subjects to be used, (C) indicating any risks or discomforts to the subjects, and (D) covering any topics checked below. CHECK all boxes applicable.

- |  |                    |
|--|--------------------|
| <input type="checkbox"/> Medical clearance necessary before subjects can participate                                 | A. Abstract attach |
| <input type="checkbox"/> Samples (blood, tissue, etc.) from subjects   | B. Subject Informa |
| <input type="checkbox"/> Administration of substances (foods, drugs, etc.) to subjects                               | Attached           |
| <input type="checkbox"/> Physical exercise or conditioning for subjects  | C. No risks or     |
| <input type="checkbox"/> Deception of subjects   | discomfort         |
| <input type="checkbox"/> Subjects under 14 years of age and(or) <input type="checkbox"/> Subjects 14-17 years of age | involved           |
| <input type="checkbox"/> Subjects in institutions  | D. None            |
| <input type="checkbox"/> Research must be approved by another institution or agency                                  | E. Instruments     |
|  | attached           |

5. ATTACH an example of the material to be used to obtain informed consent and CHECK which type will be used.

- ☐ Signed informed consent will be obtained.  
☒ Modified informed consent will be obtained.

6. Anticipated date on which subjects will be first contacted: 10 01 90  
Month Day Year

Anticipated date for last contact with subjects: 12 31 90  
Month Day Year

7. If Applicable: Anticipated date on which audio or visual tapes will be erased and(or) identifiers will be removed from completed survey instruments:

Month Day Year

8. Signature of Head or Chairperson Date Department or Administrative Unit  
Donna L. Cowan 8/9/89 College of Family & Consumer Science

9. Decision of the University Committee on the Use of Human Subjects in Research:

- ☒ Project Approved ☐ Project not approved ☐ No action required

Patricia M. Keith 8-31-89 PMK  
Name of Committee Chairperson Date Signature of Committee Chairperson

**APPENDIX B - AREA MAP OF THE SUDAN AND THE STUDY AREA**



Map 1. Area map of Sudan and study area

**APPENDIX C - INSTRUMENT**

## Questionnaire

Section Number \_\_\_\_\_

## Part One

Hello. My name is \_\_\_\_\_ and my friend's name is \_\_\_\_\_. We are from Ahfad University for Women and we are obtaining information about families in \_\_\_\_\_. We would like to ask you some questions about your family.

Interviewer calls

	First	Second	Third	Comment
Date of visit				
Results*				

\*code as    1. completed    2. deferred    3. no one home  
                  4. refused        5. other (use comment section)

If deferred, possible dates for visit \_\_\_\_\_

Interviewer's name \_\_\_\_\_

Observer's name \_\_\_\_\_

## Screening

1. Is there a married woman here? \_\_\_\_ yes \_\_\_\_ no

If yes, may I speak to her? (If she is not at home, make arrangements to meet at a later date.)

If no, thank the family for their assistance.

2. Is your husband living? \_\_\_\_ yes \_\_\_\_ no

3. Is your husband Sudanese? \_\_\_\_ yes \_\_\_\_ no

4. Have you lived in \_\_\_\_\_ for five years or more? \_\_\_\_ yes \_\_\_\_ no

5. What is your full name? \_\_\_\_\_

6. What is the full name of the head of this household? \_\_\_\_\_

If answers are yes for questions 1 to 4 above, continue the interview.

If any answer is no, end the interview and thank the respondent.

Family number \_\_\_\_\_  
 Subject number \_\_\_\_\_

## Part Two

Demographic data on the family of the target woman.

1. Target woman's full name \_\_\_\_\_
2. Birthdate: year \_\_\_\_\_ month \_\_\_\_\_ day \_\_\_\_\_
3. Date of marriage: year \_\_\_\_\_ month \_\_\_\_\_ day \_\_\_\_\_
4. Marital status: \_\_\_\_\_ husband - here  
                               \_\_\_\_\_ husband - away  
                               \_\_\_\_\_ separated  
                               \_\_\_\_\_ divorced  
                               \_\_\_\_\_ deceased
5. Marriage: \_\_\_\_\_ within family \_\_\_\_\_ outside family
6. If within, how are you related? \_\_\_\_\_
7. Mother's age at last birthday \_\_\_\_\_
8. Mother's Education: highest level \_\_\_\_\_ no schooling \_\_\_\_\_ intermediate  
   \_\_\_\_\_ elementary \_\_\_\_\_ university  
   \_\_\_\_\_ secondary \_\_\_\_\_ post university
9. Any education outside Sudan \_\_\_\_\_ yes \_\_\_\_\_ no
10. If yes, how many years? \_\_\_\_\_
11. Where \_\_\_\_\_ Western Europe \_\_\_\_\_ Eastern Europe  
                               \_\_\_\_\_ America \_\_\_\_\_ Asian  
                               \_\_\_\_\_ Arab  
                               \_\_\_\_\_ Other \_\_\_\_\_
12. Do you work outside the home? \_\_\_\_\_ yes \_\_\_\_\_ no
13. If yes, job title \_\_\_\_\_
14. How many hours a week are you at your job?  
       \_\_\_\_\_ 5-9 hours  
       \_\_\_\_\_ 10-14 hours  
       \_\_\_\_\_ 15-19 hours  
       \_\_\_\_\_ 20-24 hours  
       \_\_\_\_\_ 25 or more
15. Have you ever lived outside of the Sudan for reasons other than your education?  
                               \_\_\_\_\_ yes \_\_\_\_\_ no
16. If yes, how many years? \_\_\_\_\_

17. Where \_\_\_\_\_
18. Full name of father: \_\_\_\_\_
19. Father's age at last birthday \_\_\_\_\_
20. Father's education: highest level \_\_\_\_\_ no schooling \_\_\_\_\_ intermediate  
\_\_\_\_\_ khalwa \_\_\_\_\_ university  
\_\_\_\_\_ elementary \_\_\_\_\_ post university  
\_\_\_\_\_ secondary
21. Number of years in Sudan? \_\_\_\_\_
22. Number of years outside of Sudan? \_\_\_\_\_
23. Where \_\_\_\_\_ Western Europe \_\_\_\_\_ Eastern Europe  
\_\_\_\_\_ America \_\_\_\_\_ Asian  
\_\_\_\_\_ Arab  
\_\_\_\_\_ Other (specify) \_\_\_\_\_
24. Did he live outside of the Sudan? \_\_\_\_\_ yes \_\_\_\_\_ no
25. If yes, where? \_\_\_\_\_
26. How many years? \_\_\_\_\_
27. Father's occupation (specify) \_\_\_\_\_
28. Family monthly income: \_\_\_\_\_ less than 100 pounds  
\_\_\_\_\_ 100 - 199 pounds  
\_\_\_\_\_ 200 - 299 pounds  
\_\_\_\_\_ 300 - 399 pounds  
\_\_\_\_\_ 400 - 499 pounds  
\_\_\_\_\_ 500 or more pounds
29. How many people live in this house? \_\_\_\_\_
30. Does this include grandparents? \_\_\_\_\_ yes \_\_\_\_\_ no
31. What are the names and ages of your children? \_\_\_\_\_

### Children's Names

### Birthdates

[illegible]



## Family system:

32. Does someone from the extended family make major decisions for our family?  
       \_\_\_ yes    \_\_\_ no
33. If yes, check that person(s):  
       \_\_\_ Mother    \_\_\_ Father    \_\_\_ Grandmother    \_\_\_ Grandfather  
       \_\_\_ Other (specify) \_\_\_\_\_
34. Do parents make the major decisions for their own family?    \_\_\_ yes    \_\_\_ no
35. Do children have some freedom to make their own decisions?    \_\_\_ yes    \_\_\_ no
36. Does the family usually eat together?    \_\_\_ yes    \_\_\_ no
37. Do the men eat alone?    \_\_\_ yes    \_\_\_ no
38. Do the women eat alone?    \_\_\_ yes    \_\_\_ no
39. Do the children eat alone?    \_\_\_ yes    \_\_\_ no

## Living conditions:

40. Does the house have electricity?    \_\_\_ yes    \_\_\_ no
41. Does the house have running water?    \_\_\_ yes    \_\_\_ no
42. How many rooms in the house? \_\_\_\_\_
43. Do you own or rent?    \_\_\_ own    \_\_\_ rent

## Interviewer using observation of the home, check the following:

44. Construction    \_\_\_ red brick  
                           \_\_\_ concrete  
                           \_\_\_ mud brick  
                           \_\_\_ Other (specify) \_\_\_\_\_
45. General condition    \_\_\_ good  
                                   \_\_\_ fair  
                                   \_\_\_ poor

Family Number \_\_\_\_\_  
 Subject Number \_\_\_\_\_

## Part Three

## Interview questions for the Mother

## Child rearing practices

Interviewer \_\_\_\_\_

1. Some people require a child to obey immediately. Others do not require immediate obeying. What do you believe? \_\_\_\_\_ immediate \_\_\_\_\_ not immediate
2. Suppose you ask \_\_\_\_\_ to do a certain job and he/she did it immediately. What would you do? \_\_\_\_\_ nothing \_\_\_\_\_ praise
3. If \_\_\_\_\_ neglected your request, would you forget it or insist until he/she did it?  
       \_\_\_\_\_ insist \_\_\_\_\_ forget
4. Do the following relatives have a right to punish your child?

Relationship	Yes	No	Kind of punishment*
Father			
Grandfather			
Grandmother			
Uncles			
Aunts			

- \* Code      Kind of Punishments  
 0 -      Physical, e.g., hitting, slapping, shaking  
 1 -      Non physical, e.g., talking, withholding, withdrawing

5. Does \_\_\_\_\_ seem to want much attention from you? \_\_\_\_\_ yes \_\_\_\_\_ no
6. How do you feel about \_\_\_\_\_ following you around asking for attention?  
       \_\_\_\_\_ Don't like it \_\_\_\_\_ Like it/It is all right
7. Do you want \_\_\_\_\_ to go to school? \_\_\_\_\_ yes \_\_\_\_\_ no or don't care
8. If yes, what level of education do you want \_\_\_\_\_ to reach in school?  
       \_\_\_\_\_ Elementary \_\_\_\_\_ Intermediate \_\_\_\_\_ Secondary \_\_\_\_\_ University
9. A child sometimes gets angry and tries to hit adults or screams at or insults them. Should this be ignored or not ignored? \_\_\_\_\_ ignored \_\_\_\_\_ not ignored

10. When you punish \_\_\_\_\_, what do you do?  
       \_\_\_\_\_ hit with hand  
       \_\_\_\_\_ hit with an instrument, like a stick  
       \_\_\_\_\_ explain what the child did wrong  
       \_\_\_\_\_ scold
11. Do you have a special arrangement to reward \_\_\_\_\_ when he/she behaves well?  
       \_\_\_\_\_ yes    \_\_\_\_\_ no
12. As you know, children like to ask many questions. What do you do when \_\_\_\_\_ asks you a question?  
       \_\_\_\_\_ answer    \_\_\_\_\_ not answer
13. Do you take your child to a library?    \_\_\_\_\_ yes    \_\_\_\_\_ no
14. Do you take your child to a museum?    \_\_\_\_\_ yes    \_\_\_\_\_ no
15. Is your child in a pre-school or kindergarten program?    \_\_\_\_\_ yes    \_\_\_\_\_ no
16. Do you take your child on trips?    \_\_\_\_\_ yes    \_\_\_\_\_ no

Describe family activities other than eating, between:

17. Mother and \_\_\_\_\_:  
       \_\_\_\_\_ play  
       \_\_\_\_\_ make things  
       \_\_\_\_\_ go on trips  
       \_\_\_\_\_ help with chores  
       \_\_\_\_\_ parties  
       \_\_\_\_\_ do not interact
18. Father and \_\_\_\_\_:  
       \_\_\_\_\_ play  
       \_\_\_\_\_ make things  
       \_\_\_\_\_ go on trips  
       \_\_\_\_\_ help with chores  
       \_\_\_\_\_ parties  
       \_\_\_\_\_ do not interact
19. What would you like your child to do when he/she grows up?

#### Feelings about pregnancy

20. What was your feeling when you discovered you were pregnant with your last child?  
       \_\_\_\_\_ pleased    \_\_\_\_\_ somewhat pleased    \_\_\_\_\_ not pleased
21. How did your husband feel when he knew you were pregnant with your last child?  
       \_\_\_\_\_ pleased    \_\_\_\_\_ somewhat pleased    \_\_\_\_\_ indifferent    \_\_\_\_\_ not pleased
22. Do you think your last pregnancy was suitable in relation to your financial situation and the ages of your other children?    \_\_\_\_\_ yes    \_\_\_\_\_ no

**Marital roles****Yes****No**

1. Women should be free to select their own husband \_\_\_\_\_
2. It is natural for men to have more say about when they will marry than women \_\_\_\_\_
3. Women have higher status as they have more children \_\_\_\_\_
4. Family planning is not necessary \_\_\_\_\_
5. Contraceptives are good to use \_\_\_\_\_
6. A woman should be consulted before a husband is chosen for her \_\_\_\_\_

What is your experience with marital roles?

**Property and money**

1. Men are better managers of their wives' property than the wives \_\_\_\_\_
2. A woman should defer to her husband's judgment in matters of her property \_\_\_\_\_
3. A dowry should go to the woman's family rather than to her \_\_\_\_\_
4. Women are just as good as men in handling money \_\_\_\_\_
5. Women should hold title to their own land \_\_\_\_\_
6. Women should depend on men to make decisions about money matters \_\_\_\_\_

What is your experience with property and money?

**Work**

1. Men should earn the money for the family and women should stay home \_\_\_\_\_
2. Women cannot combine work and child rearing very well \_\_\_\_\_
3. Women are just as able as men to hold management positions \_\_\_\_\_
4. Women do not take jobs very seriously \_\_\_\_\_
5. Women have the same right to work as men \_\_\_\_\_
6. Women are not as free as men to take jobs in other cities or countries \_\_\_\_\_

What is your experience with work?

**Home and child rearing roles**

1. It is shameful for a husband to help prepare meals \_\_\_\_\_
2. The responsibility in bringing up children should be shared between both parents \_\_\_\_\_
3. Fathers should be the disciplinarians \_\_\_\_\_
4. Fathers should be involved in decisions about female circumcision \_\_\_\_\_
5. Fathers should take care of the children when a mother is working late on her job \_\_\_\_\_
6. Mothers are better at child rearing than fathers \_\_\_\_\_

What is your experience in the home and in child rearing?

### Social activities

1. A woman should be able to go places whenever she wants to
2. A woman should stay with other women when at a mixes party
3. A woman should only visit with other women outside her family
4. Women should join organizations like unions, volunteer groups, cooperatives
5. Women should be free to make friends with men not in her family
6. Men should guide women in their social lives

**What is your experience in social activities?**

## Political participation

1. A woman should not hold public office
2. Women should be as active as men in political affairs
3. A woman should be able to join a politically active organization
4. Women have played important roles in Sudan's politics
5. Women are too emotional to make good political decisions
6. Men should guide women in political affairs

**What is your experience in political participation?**

### Sense of autonomy

1. Do you feel more important as an individual than as a member of a family?
2. Do you make plans for yourself when you have free time?
3. Do you feel as competent as other women?
4. Do you feel as competent as other family members?
5. Do you feel you can control what happens to you?
6. Do you feel as competent as men?
7. Do you trust fate to take care of your future?
8. Do you make independent decisions about your life?
9. Do you determine when you will have another child?
10. Do you have plans for the next few years of your own life?
11. Are you preparing for a job or have you ever prepared for one?
12. Do you express your views even when different from others?
13. Do you have plans for your children's future?
14. Do you feel more important because of your husband's status than your own?
15. Does your family give you status more than your own accomplishments?

### Early childhood experiences

1. Did your mother praise you for what you accomplished?
2. Did your parents encourage you to plan for an education?
3. Did your father let you try to do things usually done only by boys?
4. Did your parents treat you the same as your brothers?
5. Did your father answer your questions?
6. Were your parents strict in disciplining?
7. Did your father make most of the decisions for you?
8. Were you free to choose your friends?

9. Did your mother tell you not to be too smart because boys wouldn't like it?
10. Did your parents encourage you to be independent?
11. Did you feel as competent as your brothers?
12. Did your brothers have more freedom than you?
13. Did your parents indicate they would select your husband?
14. Did you and your parents talk about your future?
15. Did you plans things to do with your free time?

1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16
17	18
19	20
21	22
23	24
25	26
27	28
29	30
31	32
33	34
35	36
37	38
39	40
41	42
43	44
45	46
47	48
49	50
51	52
53	54
55	56
57	58
59	60
61	62
63	64
65	66
67	68
69	70
71	72
73	74
75	76
77	78
79	80
81	82
83	84
85	86
87	88
89	90
91	92
93	94
95	96
97	98
99	100

## **Description of Family Report**

### Description of Family Report

Which paragraph best describes your family? Check it.

- A. These families are close-knit and have a strong sense of kinship. Elders are respected and their advice is sought out. Parents love their children but expect obedience and do not hesitate punishing their children for disobedience. The parents like their children to be quiet and not to bother adults with a lot of questions. Boys are expected to have more freedom than girls and also to have more education than girls. Most mothers remain at home to assume child rearing and family responsibilities. The family respects the authority of the larger government units and respects the religious authorities.
- 
- B. These families are undergoing many changes. Work is increasingly in industry and civil services rather than agriculture and small business. Farmers are adapting newer techniques and machinery for farming their lands. More girls are receiving education and more women are taking jobs outside the home. The family kinship system is still strong, but certain members are selected to receive the necessary education and training for a more technological and industrial society. Some families have moved from villages, leaving members of the extended family behind.
- 
- C. These families are interested in the development of each individual member of the family and promote increased independence. Parents love their children and want them to have opportunities to become whatever they wish. Both boys and girls are encouraged to attend school and prepare for careers. Parents are involved in community affairs and participate in organizations involving social improvement, including the rights of women. Political or religious authority may be challenged and children may question decisions of their parents. Many mothers hold positions outside the home and many fathers help with household responsibilities.
- 

Developed and Tested by E. Grotberg, 1988



**Parental Modernity Scale**

Parental Modernity (PM) Scale  
Earl S. Schaefer and Marianna Edgerton

I'm going to read you some statements about rearing and educating children. Tell me (HAND CARDS) if you strongly disagree, mildly disagree, are not sure, mildly agree, or strongly agree.

		SD	MD	NS	MA	SA
1.	Since parents lack special training in education, they should not question the teacher's training methods	1	2	3	4	5
2.	Children should be treated the same regardless of differences among them.	1	2	3	4	5
3.	Children should always obey the teacher.	1	2	3	4	5
4.	Preparing for the future is more important for a child than enjoying today.	1	2	3	4	5
5.	Children will not do the right thing unless they must.	1	2	3	4	5
6.	Children should be allowed to disagree with their parents if they feel their own ideas are better.	1	2	3	4	5
7.	Children should be kept busy with work and study at home and at school.	1	2	3	4	5
8.	The major goal of education is to put basic information into the minds of the children.	1	2	3	4	5
9.	In order to be fair, a teacher must treat all children alike.	1	2	3	4	5
10.	The most important thing to teach children is absolute obedience to whoever is in authority.	1	2	3	4	5
11.	Children learn best by doing things themselves rather than listening to others.	1	2	3	4	5
12.	Children must be carefully trained early in life or their natural impulses will make them unmanageable.	1	2	3	4	5
13.	Children have a right to their own point of view and should be allowed to express it.	1	2	3	4	5
14.	Children's learning results mainly from being presented basic information again and again.	1	2	3	4	5
15.	Children like to teach other children.	1	2	3	4	5
16.	The most important thing to teach children is absolute obedience to parents.	1	2	3	4	5

17.	Now that my child is in school, the school has the main responsibility for his/her education.	1	2	3	4	5
18.	Children generally do not do what they should unless someone sees to it.	1	2	3	4	5
19.	I teach my child that he/she should be doing something useful at all times.	1	2	3	4	5
20.	It's all right for my child to disagree with me.	1	2	3	4	5
21.	Children should always obey their parents.	1	2	3	4	5
22.	Teachers need not be concerned with what goes on in a child's home.	1	2	3	4	5
23.	I go along with the game when my child is pretending something.	1	2	3	4	5
24.	Parents should teach their children to have unquestioning loyalty to them.	1	2	3	4	5
25.	Teachers should discipline all the children the same.	1	2	3	4	5
26.	Children should not question the authority of their parents.	1	2	3	4	5
27.	What I teach my child at home is very important to his/her school success.	1	2	3	4	5
28.	Children will be bad unless they are taught what is right.	1	2	3	4	5
29.	A child's ideas should be seriously considered in making family decisions.	1	2	3	4	5
30.	A teacher has no right to seek information about a child's home background.	1	2	3	4	5

## Scoring

## B. Parental Modernity Scale

Progressive Score = Sum of Items 6, 11, 13, 15, 20, 23, 27, 29

Traditional Score = Sum of Items 1-5, 7-10, 12, 14, 16-19, 21, 22, 24-26, 28, 30.

Permission for use granted to E. Grotberg by E. Schaefer, 1989.